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COMPUTERWORLD®

Avatars Get Down To Business

The search for the killer app is leading corporations into uncharted territory. PAGE 22

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JUNE 23, 2008
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IN THE WORLD OF ENTERPRISE INTEGRATION

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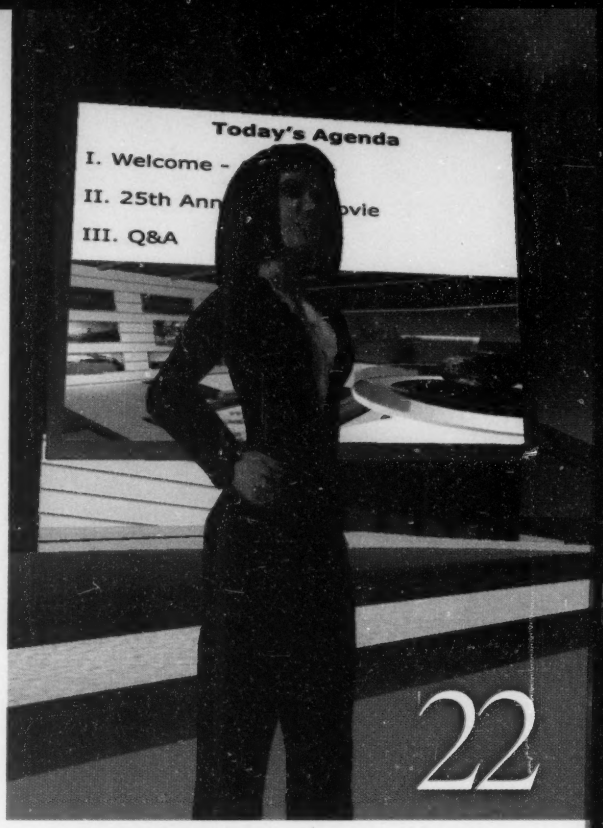

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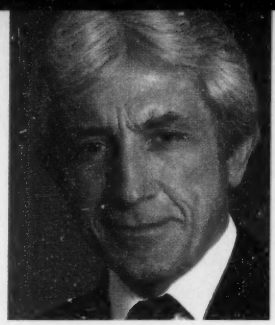
■ EDITOR'S NOTE

Don Tennant

The Bigger Question



KATHLEEN MELYMUKA'S Q&A with researcher Sylvia Ann Hewlett created quite a stir. Titled "Why Women Quit Technology Careers," the interview, posted on our Web site last week, has elicited well over 250 reader comments, many of them faulting Hewlett's statistics and conclusions.

I, too, am skeptical of much of what Hewlett had to say. As I've written in the past, I see the declining percentage of women in IT as an unhealthy trend. And since that trend won't be reversed until we ascertain its causes, any discussion of why women leave IT is serious business. Unfortunately, Hewlett made it difficult for us to take her seriously.

Like many of our readers, I took particular exception to Hewlett's "diving catch" scenario.

"Some system is crashing in Bulgaria, so you [being a man] get on the plane in the middle of the night and dash off and spend the weekend wrestling with routers and come back a hero," Hewlett contended. "Women have a hard time taking on those assignments because you can dive and fail to catch [and] a woman cannot survive a failure.... Women would rather build a system that didn't crash in the first place, but men enjoy that diving catch and have a system of support that allows them to go out on a limb."

The suggestion that men would rather rescue a failed system than build a stable one is not only insulting, but gender stereotyping at its worst.

All of that said, the interview did serve a useful purpose, because it helped raise a point that's every bit as important as the question it set out to answer: Many men say they would leave IT if only they felt they had that option.

I was surprised by the number of comments from men who said that women leave IT because they can and that men typically don't have that alternative because they tend to be the primary breadwinners.

"The real tragedy is IT has become so stressful and taxing, many men would quit the IT environment if they didn't have families to support," one wrote. "However, men generally aren't allowed that choice." Echoed another, who said he has more than 15 years in IT: "I want to get out. I just don't have that luxury. Women [in their] mid to late thirties often have husbands whose careers are taking off and a better social support structure outside of work."

■ There is a culture of isolation and seclusion in IT that tends to be accepted without challenge.

So, perhaps the key question is: Why do so many people in IT, regardless of gender, want out?

One of the reasons Hewlett cited for the exodus of women is "the sheer isolation many women cope with daily.... Isolation in and of itself is debilitating, with no mentors, no role models, no buddies." Perhaps that offers a clue to the answer to the bigger question at hand.

There is a culture of isolation and seclusion in IT that tends to be accepted without challenge. It's the nature of the work, the argument goes.

"Work in most areas of IT is, by its very nature, isolated," one reader wrote. "Social interaction is lacking in IT. It is not a case of sexist men stripping the workplace of any social aspect to discourage women. It's just the nature of the beast."

"A lot of IT work is performed by isolated individuals, and most of the IT departments I've worked in tend to treat their workers as 'rugged individualists' — not much team building," another reader chimed in. And the concept of mentoring was met by some male readers with derision.

"I have never, ever had a mentor," wrote one who said he'd been in the software industry for over 20 years. "Neither have I had a role model. Buddies don't help when you fail." Another reader put it this way: "If you need a 'mentor' in IT, you weren't cut out for it."

It's time to challenge the acceptability of the IT profession being a bastion of personal seclusion. Isolation is an unnatural, unhealthy state for human beings, and any culture that endorses it must change. Until it does, too many well-adjusted, contributing members of the profession who can leave, will. ■

Don Tennant *is editorial director of* Computerworld *and* InfoWorld. *Contact him at don_tennant@computerworld.com, and visit his blog at* http://blogs.computerworld.com/tennant.

■ ONLINE CHATTER

RESPONSES TO:

Why Women Quit Technology Careers

June 16, 2008

I've had the pleasure of working with many excellent women in IT and am glad for it. That said, I think our field can be very cutthroat, and often this makes for a toxic environment, for either sex. But it's one that men are more likely to just deal with.

I have benefitted from a mentor, but I see this as a rarity in our industry anymore. People are less interested in helping others succeed and more interested in their own career promotion. Our industry does reward those willing to put career before anything else, and that definitely turns people off. I've worked for large IT depts and watched staff work those 70+ hour weeks regularly. Who wants that?

■ **Submitted by:** *Chris*

The article implies there is some conspiracy to knock out women, when I think it's actually women are too smart to live out their lives spending 70-hour workweeks for questionable job satisfaction.

Instead of analyzing why women leave, why not figure out why men put up with it?

■ **Submitted by:** *Anonymous*

Here's a news flash: IT is a crummy field to be in right now. It's NOT because men are all knuckle-dragging Neanderthals.

Here's a thought: Could it be that women are being over-recruited for IT because of quota mongering, and then, when they find out that IT is not the wonderful, lucrative, change-the-world career choice that everyone told them it was, they leave to look for a job where they won't be pounded on by ungrateful users and moronic management, work ridiculously long hours, and outsourced the first time the CEO thinks he can bump up his stock options by laying off half the IT department?

Nawww, it couldn't be THAT. It must be sexism in the workplace.

■ **Submitted by:** *Anonymous*

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The IT Pro's Vacation Planner

Do you find yourself checking e-mail at 5 a.m. when you're on vacation? It doesn't have to be that way – unless that's how you like it.

This Old Laptop: Reviving an Aging Notebook on the Cheap

Don't ditch that old notebook! For an investment of about $125 and an hour or two of your time, you can make it run like new.

Will Google Be Your Next Data Center?

Lower costs, snap upgrades and other benefits of cloud computing are increasingly leading IT organizations to outsource traditional infrastructure chores like storage and server management to managed service providers.

Firefox 3 Fixes What's Broke And Keeps What's Right

By fixing its memory problems and adding some nice new features, Firefox 3 continues to challenge Internet Explorer for the title of Browser Champ.

Tips for Aspiring Entrepreneurs

Technology experts may have a lot of computer skills, but that doesn't mean they'd be good at running a business. Best-selling author Ken Blanchard offers would-be entrepreneurs advice on how to get ahead.

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■ **EDITORIAL**

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News Digest

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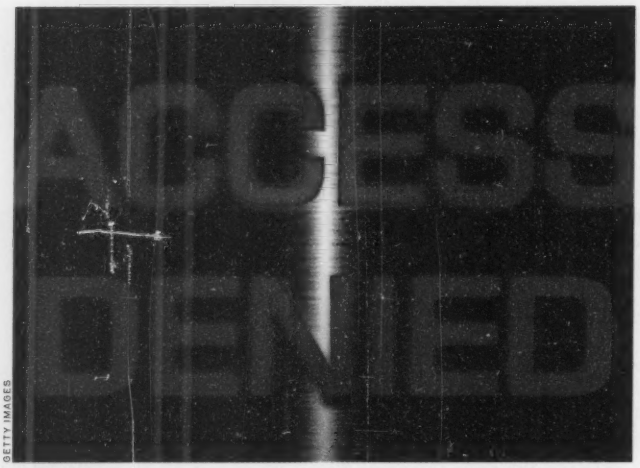
THE WEEK AHEAD

MONDAY: The Usenix advanced computing association opens its annual technical conference in Boston.

TUESDAY: The main proceedings begin at the Cisco Live 2008 conference, which Cisco is holding in Orlando.

WEDNESDAY: Oracle plans to report its Q4 financial results.

THURSDAY: The Silicon Valley Leadership Group holds a symposium on data center energy issues in Santa Clara, Calif.



GETTY IMAGES

SECURITY

Software Update Snafus Block Microsoft Patches

MICROSOFT CORP. scrambled last week to fix a flaw — or multiple flaws — in two of its patch-distribution tools after some systems administrators reported that they had been blocked from installing its latest batch of security updates on PCs.

The problems, which Microsoft first acknowledged late on the night of June 13, affected admins who use the company's System Center Configuration Manager 2007 software to update PCs running its Systems Management Server (SMS) 2003 client.

After initially recommending a work-around that involved using Configuration Manager's software-distribution feature to roll out the seven security fixes it issued June 10, Microsoft last Tuesday released an update to the systems management software itself.

But then on Wednesday, Microsoft disclosed via a blog post that its Windows Server Update Services (WSUS) tool was being blocked from distributing updates to PCs running Office 2003 or pieces of the desktop application suite. The blog post detailed a multistep work-around for WSUS users.

In both cases, the company said that the update snafus stemmed from recent changes related to Office 2003 Service Pack 1. But a Microsoft spokesman wouldn't comment on whether the troubles with the two tools were caused by the same problem, saying only that the vendor was "actively investigating."

Andrew Storms, director of security operations at software vendor nCircle Network Security Inc., said he couldn't think of earlier instances of a single flaw affecting both WSUS and the more sophisticated Configuration Manager software.

The two tools use completely different update approaches, according to Storms. Like SMS 2003, which it replaced, Configuration Manager lets IT staffers automatically push updates to PCs, he said. In contrast, WSUS stores the updates on a server and then relies on PCs to download them via Microsoft's Windows Update client.

Microsoft issued a security advisory about the bug in Configuration Manager, saying that it could affect the "overall security" of users by hampering their ability to install software updates.

— Gregg Keizer

WIRELESS

Locals Save Philly Wi-Fi Network

A GROUP OF local investors last week acquired Philadelphia's unfinished municipal Wi-Fi network from EarthLink Inc.

Terms of the deal were not disclosed by Network Acquisition LLC, the company formed by investors Mark Rupp, Rick Rasansky and Derek Pew.

EarthLink disclosed plans to shut down the network last month after negotiations to sell it to the city or an unidentified nonprofit group "unraveled."

ISTOCK

The new company said it plans "to refine and rebuild" the network based on a new business model that includes wireless and wired networks.

The group plans to use advertising to help support free wireless services, according to the city. It also said it plans to sell integrated wired and wireless services, including high-speed Internet access and broadband private network services.

– NANCY GOHRING, IDG NEWS SERVICE

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DATA CENTERS

HP to Users: No Need to Worry About The Future of Our Systems

THE EARS of attendees at Hewlett-Packard Co.'s annual technical conference seemed to perk up last week when HP CIO Randy Mott said that many companies are spending too much to keep aging systems running.

"More and more of our resources are going to support old technology," Mott said at the HP Technology Forum & Expo 2008 in Las Vegas. He didn't specify what he considers old. But talking about the cost of legacy systems tends to get the attention of users who in recent years have seen HP discontinue technologies such as its Alpha processor, Tru64 Unix operating system and HP e3000 midrange server line.

With that history, it perhaps was no surprise that Ann Livermore, executive vice president of HP's technology solutions group and the speaker who followed Mott, made a point of reassuring attendees about the future of other enterprise technologies.

HP is bringing its NonStop technology down to the blade server level.

"You should not be worried about HP's commitment to HP-UX or the Integrity architecture," she said, referring to the vendor's lead Unix operating system and its Itanium-based server line, which runs HP-UX and other operating systems.

As part of HP's product-line stability message, CEO Mark Hurd even brought his Intel Corp. counterpart, Paul Otellini, onstage to reaffirm the chip maker's support for the 64-bit Itanium family. Otellini said that early next year, Intel will double performance by releasing a quad-core chip.

In 2006, Samsung Life Insurance Co. in Seoul, South Korea, moved its core applications from three IBM z990 mainframes to an equal number of Integrity systems, each with 64 processors. San Ho Yoon, who heads the information strategy team at Samsung Life, said the $25 million migration paid for itself in 18 months through reduced hardware, software and support costs. He added that he's pleased with the performance of Integrity and HP-UX, although he would have used Linux if it had scaled to 64 processors and been more reliable two years ago.

Livermore didn't mention the 30-year-old OpenVMS operating system. But at a session on OpenVMS, HP officials said an upgrade with virtualization support is due next year.

In addition, HP updated another older technology, announcing a blade version of its Integrity NonStop fault-tolerant system.

— Patrick Thibodeau

Short Takes

Oracle Corp. has significantly increased the prices of several products, including its database software and E-Business Suite. A CPU license for its database now costs $47,500, up from $40,000, and prices of its ERP software have risen 15% to 20%. Oracle declined to comment.

Mozilla Corp. logged more than 8.3 million downloads of the latest version of its Firefox Web browser during the first day the upgrade was generally available. The company said that the downloads boosted Firefox 3.0's worldwide market share to about 4%.

Intel Corp. plans to create a new company to develop solar energy technology. Intel, Goldman Sachs Group Inc., Solon AG and the PCG Clean Energy and Technology Fund are jointly investing $50 million in the venture, called SpectraWatt.

SAP AG last week agreed to buy Visiprise Inc., a maker of manufacturing software, for an undisclosed sum. The deal is set to close next month.

SUPERCOMPUTERS

Top500 List Ranks Energy Efficiency for First Time

PROVING that performance isn't everything, the latest Top500 list of supercomputers for the first time also measures energy efficiency.

The latest ranking listed IBM's new Roadrunner as the most efficient on the list – and the most powerful, at 1.026 petaflops, or 1.026 quadrillion calculations per second.

The list was unveiled last week at the International Supercomputing Conference in Dresden, Germany.

Jack Dongarra, a professor at the University of Tennessee and co-creator of the Top500 list, noted that Roadrunner still needs as much energy as an average-size shopping mall.

Top500 co-author Erich Strohmaier, a computer scientist at Lawrence Berkeley National Laboratory, attributed Roadrunner's efficiency to its use of both AMD Opteron processors and the Cell chips that run Sony Corp.'s PlayStation.

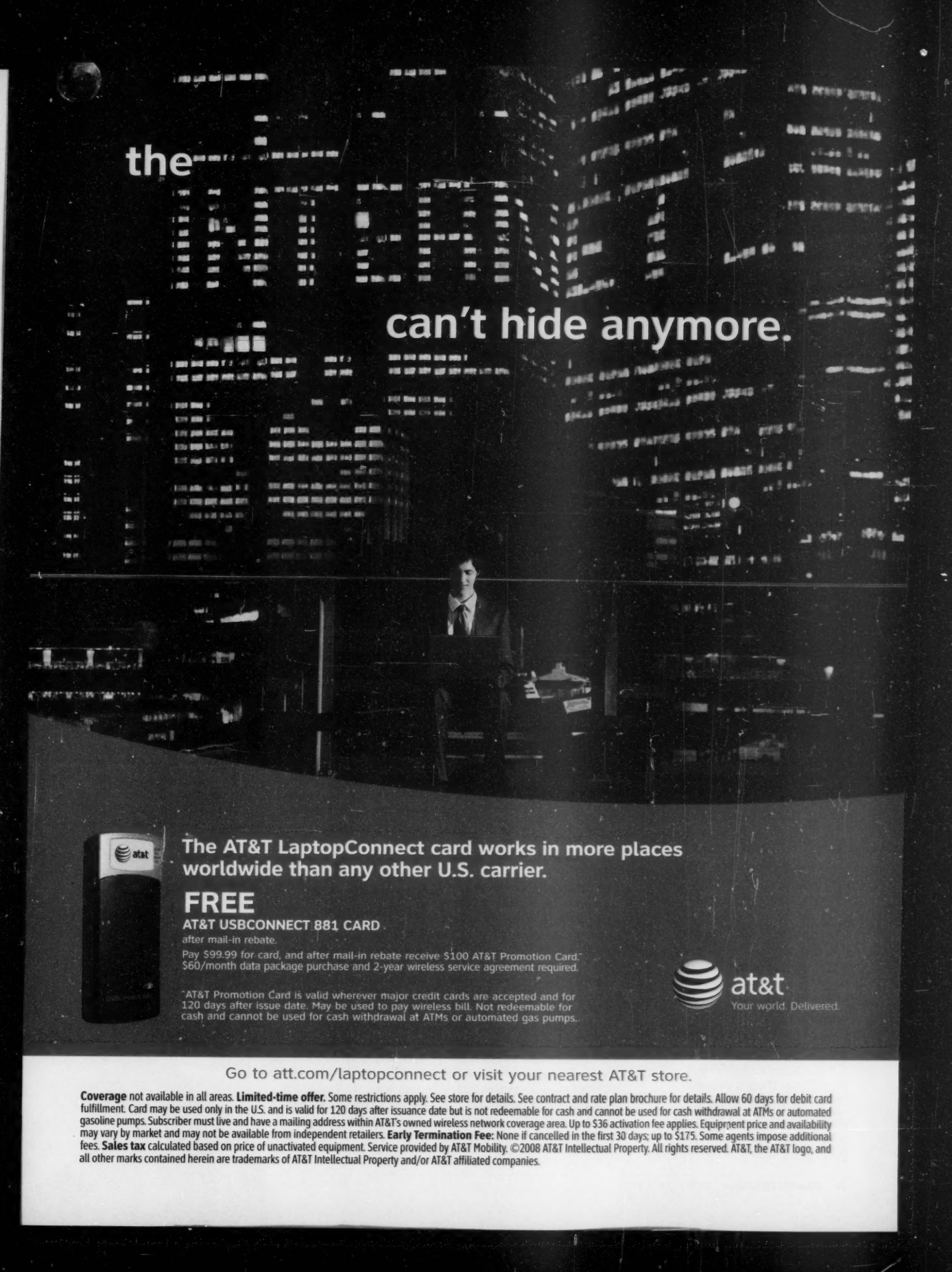
"Roadrunner is the most powerful [system] and uses some of the most efficient technology," said Strohmaier.

Dan Olds, an analyst at Gabriel Consulting Group Inc., said that advances in technology should drive down the cost of running supercomputers before the next landmark performance level – exaflop – is reached.

– SHARON GAUDIN

Top of the Top

- Four of the top five supercomputers are used by the U.S. Department of Energy.
- No. 1 Roadrunner is twice as fast as the runner-up, IBM's BlueGene/L, which had been No. 1 since 2004.
- Seven of the top 10 were developed by IBM.
- Sun placed in the top 10 for the first time – at No. 4.



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DISASTER RECOVERY

Flooded Firms Reassess Disaster Recovery Plans

Floodwaters surround a Phantom EFX warehouse in Cedar Falls, Iowa.

PHOTO COURTESY OF PHANTOM EFX INC.

AS HISTORIC floodwaters start to recede along the Mississippi and other Midwestern rivers, local businesses in affected communities like Cedar Falls, Iowa, are busy assessing the impact on IT equipment and whether disaster recovery plans stood the test.

Phantom EFX Inc., a maker of computer games in Cedar Falls, may be permanently displaced after Cedar River floodwaters reached 6 feet in its administrative offices and 5.5 feet in an adjoining warehouse. The company sustained about $250,000 in damage to inventory.

The firm's president, Jim Thompson, said all 65 employees are now working temporarily in borrowed offices in three facilities.

As the floodwaters approached on June 9, employees scurried to save 120 PCs, 80 monitors and eight servers, Thompson said. Three high-end printers could not be removed in time.

Thompson plans to revise his disaster recovery plan. "When a river comes up 6 feet higher than it ever has before, it's tough to have that foresight," he said. "But it's probably going to happen again."

Wade Arnold, CEO of Cedar Falls-based T8Design, said his software development company has plans to deal with tornados and electrical outages, but executives never dreamed they would have to contend with the Cedar River surpassing 500-year-flood levels. "Going through this experience [will] make those plans [more] than just part of an IT checklist," he said.

A key lesson learned was that companies must prepare for employees to miss work to help families and communities after natural disasters.

— *Brian Fonseca*

BETWEEN THE LINES *By John Klossner*

LAST WEEK

Forty-six percent of 2,250 U.S. residents surveyed daily in April and May said they had used the Web, e-mail or text messaging to get information on the presidential election campaign, according to the Pew Internet & American Life Project. That's up from 31% at this point in 2004.

TWO YEARS AGO: Novell Inc. ousted CEO Jack Messman and replaced him with Ron Hovsepian, who had served as Novell's president and chief operating officer.

41 YEARS AGO: Patrick J. McGovern published the first issue of *Computerworld*.

Global Dispatches

China Quake Site Hacker Arrested

BEIJING – A 19-year-old Chinese man is in police custody after allegedly hacking into a provincial seismological bureau's Web site and issuing a false earthquake warning.

Just weeks after a major earthquake hit China's Sichuan province, the teenager altered the Web site of the Guangxi Seismological Bureau to display a fake warning saying that southwestern China was about to be hit by an earthquake measuring 9.0 on the Richter scale.

The Web site of state-owned China Central Television said the suspect, identified only by his surname Chen, was arrested in Taicang on June 4 and is being held in the Guangxi provincial capital of Nanning. The charges were not disclosed. The state media report said that Chen confessed that he had altered the Web site to demonstrate his technical skills.

Steven Schwankert,
IDG News Service

Citrix Opening Second Indian R&D Center

BANGALORE, India – Citrix Systems Inc. last week announced that it plans to invest $200 million (U.S.) over five years to establish a second research and development facility here.

The new facility is expected to employ about 500 engineers. It will be used for core development work – such as design, coding, functional testing, documentation, engineering and escalation – on the Citrix Delivery Center product line.

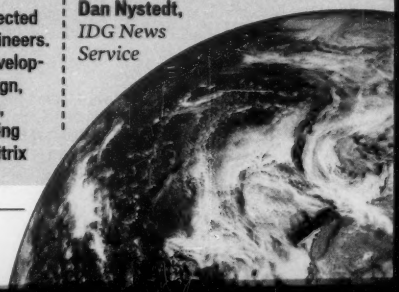
Citrix opened its first Bangalore research center in 2005 following its acquisition of NetScaler Inc., a San Jose-based networking firm with an R&D facility here. That facility now employs 200 engineers.

John Ribeiro,
IDG News Service

BRIEFLY NOTED

China Mobile Ltd. last week signed a $1 billion (U.S.) deal to buy a range of wireless networking and 3G mobile telecommunications equipment from Paris-based Alcatel-Lucent's Chinese subsidiary, Alcatel Shanghai Bell Co.

Dan Nystedt,
IDG News Service



EITM: Moving Beyond BSM

Ajei Gopal, Executive Vice President, CA

Don LeClair, Senior Vice President and Distinguished Engineer, CA

BUSINESS SERVICE MANAGEMENT, OR BSM, traditionally has been defined as managing infrastructure and IT service management. With Enterprise IT Management (EITM), CA takes this concept a step further and incorporates governance, IT security and compliance. Computerworld sat down with CA's Executive Vice President Ajei Gopal and Senior Vice President and Distinguished Engineer Don LeClair to discuss the latest IT industry trends and what CIOs need to know.

Computerworld: ***Today, as has been the case for 25 years, the top challenge for CIOs is better IT/business alignment. What does this tell you?***
Gopal: Businesses continue to be challenged to find new and diverse ways to take advantage of technology —it's a very dynamic landscape. What's missing is a continuous connection between the strategy that a business is driving and the performance of the IT service. Key to meeting this challenge is the ability to govern, manage and secure the IT services in the context of the overall business priorities. At CA, we believe that truly business-oriented IT management is more than traditional BSM. We call our approach Enterprise IT Management, or EITM.

Computerworld: ***What is the core value proposition of EITM?***
Gopal: It is not just about making a service available; it's about enabling IT to deliver that service from the perspective of its business impact. To do that effectively, you have to define the service, from its components to its business value based on the strategic goals of the company. This view of a service goes beyond the traditional definition of BSM to include IT governance and IT security. We use the term "Enterprise IT Management" to describe this comprehensive integration of managing, governing and securing IT.

Computerworld: ***Do most definitions of BSM fall short?***
LeClair: The traditional view is that BSM involves the management of the infrastructure and IT service management. We look at the goals for business-oriented management—and we think they have to be broader so they include governance and compliance and security. It's interesting that ITIL is evolving toward a broader view that is more closely aligned with what we call EITM.

Computerworld: ***Is there a clear return on investment with EITM implementations?***
Gopal: Yes, there is a clear ROI from EITM implementations. The level of ROI depends on the maturity of the customer. There are customers who are very advanced and are ready to take a holistic view about supporting and delivering services to drive the business. There are other customers who are still struggling with the basics of keeping their infrastructure up and running. Most companies are somewhere in between. We are finding that the big returns come when companies have consolidated service and infrastructure management so they can automate many key processes in the life of a service, such as change management and virtual-server provisioning.

Computerworld: ***What's driving the adoption of business-oriented approaches like EITM?***
LeClair: It starts with better business outcomes. Increasingly, CIOs aren't technical people who have moved up the ranks; they are business people. So naturally they are looking at the business outcomes IT can deliver. When IT is able to base service on business priorities and report business-oriented metrics, IT becomes much less about saving money and more about how much additional revenue it can drive.

Computerworld: ***How does EITM relate to ITIL?***
LeClair: ITIL is the model for best practices in IT. As ITIL has evolved, it has become service-oriented, looking at how to manage the entire service lifecycle, starting with strategy and design and including operations and continual improvement. EITM helps IT implement and be successful with ITIL in the real world by connecting all aspects of defining and delivering services.

Computerworld: ***What can CA do to help companies feel more confident about the return on their EITM projects?***
Gopal: We have the most comprehensive set of technologies in the industry to ensure that customers derive the greatest possible benefit from their IT investments: service management, infrastructure optimization, application performance management, data center automation, security and governance. We see a straight line between these areas of EITM and delivering on the strategic goals of the business.

ca®

DAVE CLARK

Microsoft's Golden Age: Going, Going . . . Gone?

With Bill Gates giving up his day-to-day role at Microsoft, a big question is whether the company's best days are behind it. **By Eric Lai**

ORACLE CORP. and SAP AG may still be bigger in enterprise applications, and Oracle in databases. Both IBM and Hewlett-Packard Co. may reap more IT dollars overall. But in the ways that really count, Microsoft Corp. remains the king of the IT industry.

Now, though, Microsoft is at a major crossroads, as co-founder Bill Gates prepares to step away from his day-to-day job at the company next Monday. Although Gates has long been disengaging from Microsoft — he turned over the CEO position to Steve Ballmer in January 2000, and his retirement plans were announced two years ago — his departure raises questions about whether the software vendor's best days are behind it.

For example, Forrester Research Inc. CEO George Colony wrote in a June 16 blog post that Gates' "constructive monopolism" had created a set of de facto IT standards — to the benefit of users as well as Microsoft.

Gates wasn't a technology innovator, Colony wrote, but he "possessed the competitive drive to force his technologies into monopoly positions in the marketplace." That drive, Colony added, has been missing from Microsoft in recent years as Gates has focused less on the company and more on his philanthropic activities, allowing rivals like Google Inc. and Apple Inc. to steal the IT spotlight.

With Microsoft approaching corporate middle age — the company was founded 33 years ago — it faces more threats than ever to its long-held and fiercely defended IT alpha dog position. The Microsoft-controlled standardization of IT is being challenged by proponents of open document formats, while open-source software, Web 2.0 technologies and software-as-a-service (SaaS) offerings are nipping away at Microsoft's lucrative Windows and Office franchises.

Chief among the threats is Google. "When Microsoft looks at Google," said Rob Horwitz, CEO and head of research at consulting firm Directions on Microsoft, "it sees a younger, beefier and more suntanned version of itself, and it says, 'Wow.' "

Google Docs, an online rival to Office, is a dagger aimed at the heart of one of Microsoft's top profit generators. And collectively, Google's lineup of cloud computing technologies is designed to smash Microsoft's desktop dominance.

Unlike Microsoft, Google "doesn't have to deal with any legacy issues," said Creative Strategies Inc. analyst Tim Bajarin. "That's why they can be a bull in a china closet and experiment."

Bolstered by its huge Web advertising business, Google can also afford to bide its time. Most of its would-be Microsoft-killers are still technically in beta and hence free to users.

Google is "trying to deny Microsoft revenue by getting corporations to stop renewing their enterprise agreements with Microsoft," said Enderle Group analyst Rob Enderle. "Even if [Google doesn't] make any money, Microsoft can't make money."

For now, Microsoft appears to be perfectly healthy. The company is expected to post a profit of $16.4 billion

on revenue of $58 billion for its 2008 fiscal year, which ends June 30. That would represent double-digit growth from fiscal 2007.

Also, the respective market shares of both Windows and Office remain above 90%, and the company's $10 billion-plus server and tools business — which includes Windows Server, SQL Server, Visual Studio and System Center — continues to grow, as yet unopposed by any offering from Google.

CHALLENGES AHEAD

But the continued strong showing is something of a mirage, according to Enderle. Microsoft is focusing "way too much on revenue, not on customer loyalty," he said. "It's good in the short term but badly damages you in the long run."

And Horwitz noted that Microsoft hasn't managed to come up with a new hit product "in nearly a decade," despite pouring about $7 billion annually into research and development. Search technology is a prime example, and Microsoft's frustration in that arena is epitomized by its unsuccessful effort to buy Yahoo Inc. to help it compete against Google.

In addition, Microsoft's efforts to match up against Google, Salesforce.com Inc. and other online application rivals are being hampered by the very success of Windows and Office products. Instead of following a pure SaaS approach, Microsoft has adopted a strategy it calls "Software+Services" that's designed to incorporate and protect its existing products.

The company's contortions to preserve its star players show how a large installed base can be a "ball and chain," Horwitz said. He predicted that within five to 10 years, Microsoft will be forced to fundamentally overhaul both Windows and Office — potentially giving customers an opening to switch to rival offerings.

There are internal issues as well — such as the bureaucracy and complacency that sheer size can breed. Enderle, a former IBM employee, drew parallels between the two companies. "Microsoft's current problems," he said, "are like IBM's in the early 1990s: It's getting in its own way."

But that doesn't mean Microsoft is doomed to a downward spiral. In the past, it has shown an ability to face down threats, including WordPerfect, Lotus, IBM, Novell, Netscape — and even the U.S. Department of Justice.

"I'm not expecting Microsoft to fail by 2015," Enderle said. Even the slow adoption of Windows Vista could have a silver lining. "You've got a development team that's been slapped upside the head," he said. "They're motivated to do something dramatically better."

And IT executives such as Jim Prevo, CIO at Green Mountain Coffee Roasters Inc. in Waterbury, Vt., remain wary about casting their lot with Google and SaaS.

"I like Google, but I don't see it in the same class at all as Microsoft's apps," Prevo said. As for SaaS offerings, "I'd be tying my wagon to a bunch of different horses for various business processes," he said. "If any one of those providers was to go belly-up, I'd have an urgent problem."

Moreover, Horwitz noted that Google itself is already contending with the same kind of monopoly concerns and industry jealousy that Microsoft has faced.

But like other vendors before it — such as HP and IBM, as well as NCR and Xerox — Microsoft may have to make some big internal changes in order to continue thriving in the years to come.

Enderle points to HP and EMC Corp. as vendors that Microsoft could emulate. EMC has a product quality and customer loyalty unit that reports directly to CEO Joe Tucci, while HP is doing well financially because its CEO, Mark Hurd, is "focusing very sharply on operations," Enderle said. In contrast, he said he views Ballmer as a "super sales guy" who has been loath to show underperforming executives the door. ■

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Go to our Web site for additional stories about Bill Gates' retirement: computerworld.com/more

Historical Legacy May Focus on Philanthropy

With the impending retirement of Bill Gates from Microsoft comes an obvious question: How will history view him? As a founder of the world's most influential software vendor and one of the biggest creators of wealth ever? Or as a monopolist and digital robber baron?

In fact, Gates may be remembered less for any of that than he is for his philanthropic work – just like former steel industry magnate Andrew Carnegie, who today is known more for his charitable largesse than for the business tactics that made him an immensely controversial figure in the late 1800s.

Ultimately, Carnegie gave away almost all of his money. Gates has said that over time, he will likewise donate nearly his entire fortune to the Bill & Melinda Gates Foundation, to which he had already given $26 billion as of 2006.

"The scope of what he's doing is so enormous that it sent out shock waves in the philanthropic world," said Peter Frumkin, a professor of public affairs and director of the RGK Center for Philanthropy and Community Service at the University of Texas at Austin.

Gates also is taking a different tack than other philanthropists have. His efforts are "grounded in data," Frumkin said. "And he only tackles problems that he believes are solvable with his resources." That approach, combined with the size of the Gates Foundation's endowment, ensures that Gates will be regarded as one of the most generous philanthropists ever, according to Frumkin.

But Forrester Research CEO George Colony isn't convinced that Gates' business dealings will be left in the background historically.

Gates will be seen as "one of the greatest monopolists in American history," Colony said in an interview. But, since the dominance of Windows and Office helped standardize desktop systems for users, he added, "we all benefited from that monopoly."

– PRESTON GRALLA

State, Local Governments Slow to Tackle Web 2.0

Manpower and budget constraints often hold back public-sector IT projects.

By Todd R. Weiss

HARRISBURG, PA.

WEB 2.0 tools could significantly improve state and local government communications with constituents, as well as aid in recruiting top college graduates for IT positions, according to speakers and users at the Pennsylvania Digital Government Summit here last week.

However, speakers also warned that local and state government officials would have to move slowly, since they face perpetual IT funding and manpower constraints.

James Young, associate vice president for information services at Harrisburg University of Science and Technology, suggested that government agencies first try implementing simple Web 2.0 applications like blogs, wikis and RSS feeds.

"I'm not here to tell government to just jump in," Young said. "It takes a while to adopt this stuff because we don't know what is going to work and what's not going to work. What do they like? What do they want? You can communicate with [residents] and create a buzz."

He said that a first Web 2.0 effort could be as simple as creating a mashup that combines Google Maps with local real estate databases so that pertinent data pops up when a user mouses over an address on a map.

Some government agencies, Young added, have already created "policy wikis" to debate their rules and regulations.

Mary Benner, CIO for the Pennsylvania Department of Labor & Industry, said that Web 2.0 is "something that we need to pursue, but it is not an immediate priority."

Benner expects to gradually add Web 2.0 technologies to the agency's Web site over the next one to three years as interest and demand builds among the state's residents. In the meantime, agency IT managers must address potential privacy and security concerns raised by the Web 2.0 technologies.

The agency is already evaluating requests from residents for live chats with its top officials.

Benner said that once the agency adopts the technology, she hopes to use it as a recruiting tool to attract young IT workers and recent college graduates.

"They use it every day," Benner said. "That's their way of communicating. If we don't offer those technologies, they will see us as being in the Dark Ages."

Ron Mont, an application developer for the Pennsylvania Department of Community and Economic Development, said that while Web 2.0 features can be useful, the state should first deal with other, more urgent projects.

For example, he noted that Pennsylvania state agencies currently lack standard hardware and software platforms. Some agencies still use Windows 98, while others have switched to Windows XP. And multiple versions of key applications are used by the various state agencies.

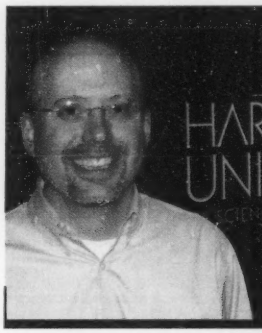
"I think the biggest issue is not Web 2.0 but getting all these agencies on the same page," Mont added. "I don't do anything in the virtual world. I don't have time for that. My day is filled with building applications that are mandated by my higher-ups."

He also noted that some agencies prohibit users from accessing Web 2.0 sites like YouTube and Google Earth and that such rules could stymie Web 2.0 efforts. There are also concerns about hackers potentially using Web 2.0 tools to access personal data stored by government entities.

Michael Gallagher, a newly elected supervisor in Newtown Township in Bucks County, Pa., created a personal Web site and a blog to better communicate with residents. "I ran on a platform of opening the lines of communication," he said.

Gallagher, who is a software developer, said he would like Newtown Township to look at adopting Web 2.0 applications to better serve its 20,000 residents.

He noted that any Web 2.0 efforts would move slowly because the township employs only two full-time IT workers, whose primary jobs are to maintain servers and handle other day-to-day tasks. But, he added, "the public is asking for more communications." ■



"I'm not here to tell government to just jump in. It takes a while to adopt this stuff, because we don't know what is going to work and what's not going to work. What do they like? What do they want? You can communicate with [residents] and create a buzz.

JAMES YOUNG, ASSOCIATE VICE PRESIDENT FOR IS, HARRISBURG UNIVERSITY OF SCIENCE AND TECHNOLOGY

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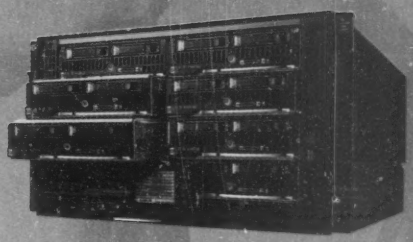

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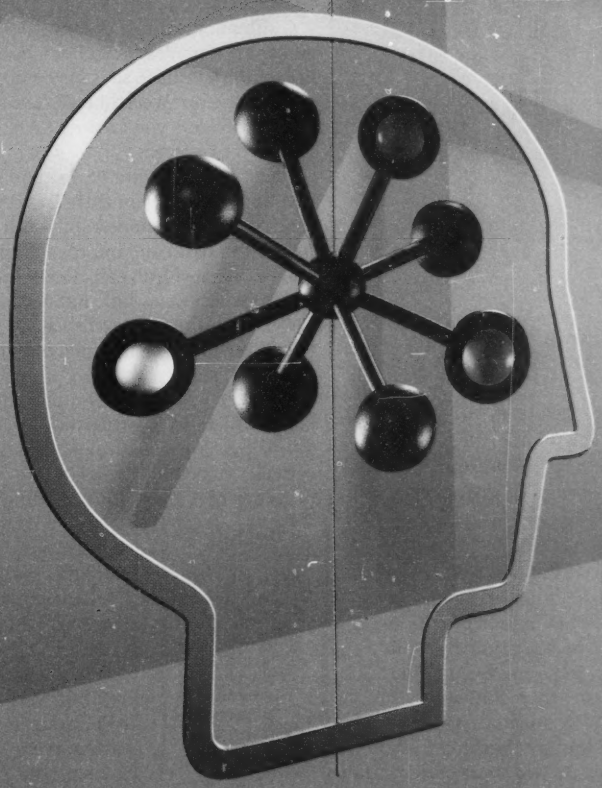

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On the Mark

HOT TRENDS ■ NEW PRODUCT NEWS ■ INDUSTRY BUZZ BY MARK HALL

MATTHEW FAULKNER

Who's Getting the Phone?

THERE'S NO good way to spin the statistics about call center performance. They're bad and getting worse.

As it does every year, Dimension Data Holdings PLC, an IT services firm in Johannesburg, South Africa, polled 300 companies in 30 countries about call center performance. The numbers are distressing.

The percentage of calls answered in less than 10 seconds fell nearly 12% over the period of 1997 to 2007, and the average time it takes to answer jumped 69%, from 23 seconds to 39. The percentage of calls abandoned by those tired of waiting for an agent more than doubled, from 6% of calls to 13.6%.

27%
2007 call center agent attrition rate (vs. 14% in 1997), per Dimension Data.

Humans solving users' problems dropped to 69% last year from 85% in 1997. Interactive voice response usage was up 158%, but that's because companies force IVR on users. The time it took help desks to reply to an e-mail went from 11 hours to 20.

Given all of the technology that CIOs have thrown at the call center problem, you'd think things would have improved. But it's not a technology issue; it's a management issue.

Look at these numbers: The agent attrition rate is 27%, nearly double that of 1997, and the agent absentee rate more than doubled, to 11%. What's more, full-time agents made up just 73% of the workforce in 2007, down from 87% 10 years earlier. And the outsourcing of call center jobs, which skyrocketed 220% over the decade, obviously hasn't helped.

These are fundamental management problems that have no technology solution.

Grant Sainsbury, practice director at Dimension Data, argues that outside changes have contributed to the situation. The rise of the Internet, he suggests, has made consumers' queries more complex, since they can solve the more piddling issues on their own.

That may be, but call center managers and their bosses are failing their businesses as well as their customers, as these numbers show all too well.

Replace Old SAN With Server Storage

Christophe Guittenit has come up with a simple idea that could radically change the look, performance and reliability of your rapidly virtualized data center: Dump your external storage-area network and use the disk drives in your servers instead, he suggests.

Guittenit, chief technology officer at Seanodes SA in Boulogne-Billancourt, France, says his company's release last week of its Exanodes VM Edition lets you create a SAN within your servers.

According to Guittenit, Exanodes VM Edition gives you extra I/O (because each server adds bandwidth to the flow of data) and improved reliability (because you can cluster up to 128 servers in a single Exanodes SAN). He claims that the system will still work even if as many as 16 drives fail at once.

Another advantage, Guittenit says, is that unlike with old-fashioned SANs, you don't need to manage the specifics of iSCSI drives. He also contends that questions regarding SAN logical unit numbers and multipath configuration are a thing of the past with Exanodes.

Guittenit: Use servers for SANs, too.

One drawback, albeit minor, is that most data center servers are currently equipped with small disk drives and will need to be upgraded with much more capacity before you can dump your old SAN gear. But once you do, your data center will look a tad tidier.

Exanode VM Edition is available for Citrix XenServer and its open-source sibling; versions for VMware and Microsoft's HyperV will ship in October.

Pricing starts around $500 per terabyte of storage. ■

COMPUTERWORLD.COM

MORE BUZZ

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PAUL MARKOW

Dossier

Name: Laraine Rodgers

Title: President

Organization: Navigating Transitions

Location: Tucson, Ariz.

First job: "Soda jerk at my aunt and uncle's drugstore in the Bronx. You learn a lot about customer service that way."

Philosophy in a nutshell: "Life is a series of well-accomplished assignments."

Favorite vice: Decaf cappuccino

People she'd love to invite for dinner (at one time): Margaret Thatcher, Peter Drucker and Joseph Campbell

Favorite technology: "The next gizmo that transforms my world! I never leave home without my 'all-in-one.' I plan to buy the next iteration of iPhone."

Epitaph of choice: "She loved her family and was a technology pioneer."

Favorite Web site: "Google – it's *the* electronic window to the world."

■ **THE GRILL**

Laraine Rodgers

The serial CIO talks about understanding **the value of thankless jobs, learning from mistakes** and being **the only woman in the room** — repeatedly.

When Laraine Rodgers was growing up in the 1950s, her parents liked to say that she would "never starve," because of her drive and determination. Indeed, few women, or men, can equal her track record over more than four decades in IT. At the age of 17, armed with a keen mind and a gritty determination but no experience and no college degree, she landed a job as a computer programmer at a time when those jobs routinely went to men. She went on to become the CIO at Xerox U.S., a senior vice president at Citibank, the CIO for the city of Phoenix and a director at American Express. Vice President Al Gore tapped her to help with his "reinventing government" effort in the 1990s. She now heads up the consulting firm that she founded.

Why did you get into IT? I was adopted, but I didn't find out until I was 16 and ready to graduate from high school. I was so angry at being lied to I threw

"I move forward always – not necessarily in a straight line, but always forward.

away my merit scholarship and I refused to go to college. My mother and father said, "What are you going to do?" and I said, "I have no idea." But I later took a programmer aptitude test and I aced it, so I started in IT as a programmer. I started in the weeds.

What was your first IT job? It was 1965, and I was 17 years old and with only a high school degree. I walked the streets of New York looking for a job. I was told at AT&T I would be a telephone operator, but I reiterated my need to become a programmer. They laughed and said only men were programmers, [and] even if I had a college degree, the best I could hope for was a job as a computer operator.

But then I applied for a job at the New York Blood Center. As part of my job interview, I had to program on one punched card a routine to print every other line on a page. The computer had just 4K of magnetic-core memory. I used part of that fixed-core storage that was not used for anything else. My one-card Autocoder program for the IBM 1440 computer worked perfectly the first time. I coded it, keypunched it and ran it while being observed the entire time. My boss was quite a techie and was most happy.

We ran all our systems for the New York Blood Center on that computer, with only 4,000 characters of memory! The lesson I learned: Use all the tools available, and then some. The lesson still holds today.

Did you encounter any more gender bias over the years? When I applied for that first programming job, I was vetted for my "behaviors" by a programmer already working there who saw me in class at IBM. He said I seemed to be OK, could answer and ask tough questions, and did not try to flirt with the guys in the class, where I was the only woman out of 26 students.

One year later, I found out I was being grossly underpaid. I went to the HR director and told her. She insisted it was OK because a) the other programmer was a man, b) he had a family (he was actually single), and c) he needed money to date! It did not add up. She would not consider my request, based on performance, to be paid equally. I gave my two weeks' notice and happily moved forward. I loved my first job; I gave and learned a lot. But fair is fair.

I have seen many instances over the decades where similar inequities occurred. I addressed each one on a case-by-case basis, sometimes choosing to stay as there was more to be done and gained. Other times, I gracefully exited. We still have a gender issue, but that's not something a corporate policy, even backed up by legislation, can make right overnight.

What are some of the things that have helped you succeed over the years? I always volunteered for seemingly thankless jobs — challenging assignments that nobody wanted. It was, "If we hate something, if it's a mess, give it to Laraine."

Can you give an example? I saw a huge project fail at American Express in 1975, and it failed for a lot of reasons. At a meeting they said, "What do you think?" and they went around the room. I stood up and said I think we need to approach it X, Y and Z, and the VP pointed to me and said, "You are in charge." Nobody wanted the project, but they were pretty desperate. The project was ultimately phenomenally successful. It really launched me. It was a defining moment in my life.

The original project manager was a good guy, but he was afraid to take a risk, and he didn't look at the big picture. He was fanatical about what he knew, and he was smart, but he didn't listen. He said, "I know this technology is going to work," and I said, "You don't even know what you have to do yet, so how can you pick the technology?"

Have you ever failed? I was fired once. It was nobody's fault but my own. I took a position that was not a fit, and I knew it at the time. I did it for personal and not professional reasons; I wanted to be near my fiancé. What I learned was, make decisions for the right reasons. Every experience I've had — even the unhappy ones — have made an impact on me, and they mean a lot.

Do you ever give up? I am self-propelled, driven, excited about life, love to learn. I got my undergraduate degree at age 40, and my MBA at 42 — all working full time. I move forward always — not necessarily in a straight line, but always forward. I have been fired once, laid off twice and promoted over 27 times. I repackage myself regularly and keep moving forward. I perceive the possibilities. I am not hindered by obstacles. There are no obstacles. Some things just take longer.

— *Interview by* **Gary Anthes**

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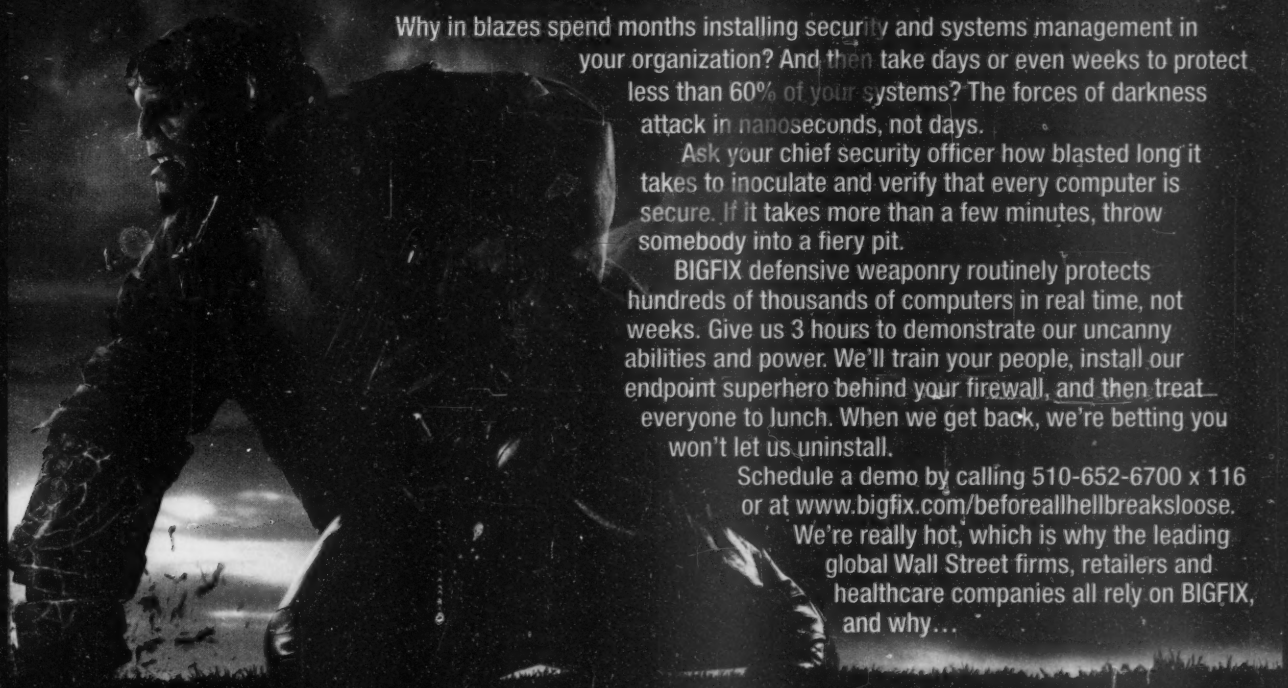

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■ OPINION

Virginia Robbins

Career Advice From Generation Y

I FEEL LUCKY to work with so many smart young people. These twentysomethings, often referred to as Generation Y, belong to the generation behind mine. We hear a lot of generalizations about this group. My take is that they are energetic, intelligent and not too different from my own generational peers.

What I see is a group of young people who are doing what I did in my 20s: exploring life and developing skills in business. When I was in my 20s, I felt a great deal of pressure to become an adult — someone with a career, a house, a family — in short, someone just like my dad. I wondered whether things are all that different for the next generation, so I asked my twentysomething colleagues what advice they would give their peers just entering the professional workforce. What I heard applies to all of us, I think.

1. Keep an open mind, and don't jump to conclusions. When faced with isolated facts, remember that you may not have the whole story. This is advice I could have used when I was the age of the person who just gave it to me. When I was in my 20s, I used to think that senior managers could be pretty darn stupid at times. A lot of the time, they did things that didn't make a lot of sense to me. Now that I am a senior manager myself, I understand that we all will make mistakes on occasion, but in general, managers have good reasons for their decisions.

2. Don't worry so much. I was surprised to hear this from a highly competent middle manager. Of all the young people I work with, she seems to have the least to worry about. Having graduated from a prestigious college, she managed to break into middle management before the age of 30. She's competence personified. But perhaps being worried — and doing something about it — is what has gotten her where she is. Here I am, a generation older, and I still worry about the details, the big picture and everything in between, and it's difficult to imagine a time when I won't. But I have learned to focus my worry on things I can do something about rather than on things that belong to others.

■ What I heard applies to all of us, I think.

So, this young middle manager may have been saying, "Don't worry so much about things you can't do anything about." Or perhaps not. Like me, she may not learn that until she's in her 30s.

3. Don't grow up too fast. This was my favorite bit of advice. It came from a very smart analyst, who said that there's plenty of time to settle into middle age and that in the meantime, one should travel as much as possible. When this analyst is working, she does a great job, and when she's not, she has a great time. She has already found what most of us older folks yearn for — a work/life balance that gives her a satisfying career and a lot of great experiences. Her philosophy may sound similar to the "work hard and play hard" ethic of the '90s, but it's really more relaxed and more focused on being present and enjoying being present — both when at work and when at play.

After listening to the "kids" in the office, I spoke with our "seniors," the oldest baby boomers. These are professionals who, having retired from one career, have returned to the workforce (some of them part time) because they want to. For the most part, they echoed what the Gen Y'ers had to say. But they added something to the advice about growing up too fast:

4. Don't grow old too fast. Too many people accept restrictions placed upon them by others — even well-meaning people like doctors and family members. So what if Jerry Rice had to play football for the Raiders? The point is that he was still playing — doing what he enjoyed.

So to all of us in the sandwich generation, taking care of our kids and our parents, older than these Gen Y'ers and not yet retired, I say stop and make sure you're enjoying where you are right now. Don't grow up too fast, and certainly don't grow old too fast. ■

Virginia Robbins *is a former CIO who is currently the chief administrative officer responsible for bank operations at the California Bank of Commerce. You can contact her at vrobbins@sbcglobal.net.*

Advertisement

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The 8 Essential Benefits of Automatic Defragmentation

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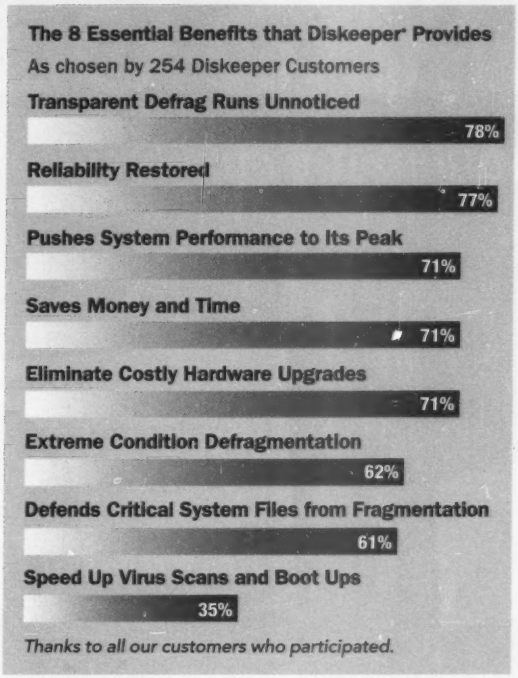
We asked 254 of our customers what were the essential benefits of using Diskeeper. This is what they had to say:



1. PUSHES SYSTEM PERFORMANCE TO ITS PEAK

"We had one machine that had a failing drive in a RAID 5 array and when we replaced that drive, performance improved by 300%. And then when I ran Diskeeper for a week, again it improved over 300%. A disk intensive process that was taking 1.5 hours is now taking 15 minutes."

2. RELIABILITY RESTORED

"We use Microsoft® SQL Server®. We were receiving hundreds of messages per day in the log like this one: SQL Server has encountered 21 occurrence(s) of I/O requests taking longer than 15 seconds to complete on file [E:\mssql\data\...]

"We researched this error and found that it is usually caused by badly fragmented hard drives. While our drives are part of a large SAN solution, we were not totally convinced that this should be causing the problem. We downloaded a trial version of Diskeeper and after running it, all of these errors disappeared! We have purchased 5 copies of Diskeeper and we are installing them on all of our production databases with the expectation to never see this error again!"

3. TRANSPARENT DEFRAG RUNS UNNOTICED

"The server automatically defragments only when there are idle resources. No more worrying about when I can schedule defragmentation, no more worrying about if the defragmentation will cause performance issues. InvisiTasking™ has worked great for us on everything from file and print servers to SQL servers."

4. DEFENDS CRITICAL SYSTEM FILES FROM FRAGMENTATION

"I have been using Diskeeper at my office on the 63 workstations and 4 servers over the last year. The addition of Frag Shield™ 2.0 eliminates the task of manually changing the MFT. In the past most of my MFTs needed adjustment. Now that this function is automatic, I don't have to manually check it."

5. SAVES MONEY AND TIME

"Prior to installing Diskeeper, we were manually defragmenting. Some of the drives would take hours to defrag and within a few days we would need to defrag again. Installing Diskeeper basically paid for itself within a month by reducing off-hour salaries. Also the defragmented drives perform better and last longer. It's a no-brainer for production machines."

6. SPEED UP VIRUS SCANS AND BOOT UPS

"Diskeeper saves time in doing virus scans, backing up, indexing and searching the files. There are also faster download times for users because of the lower load on the defragmented RAID."

7. EXTREME CONDITION DEFRAGMENTATION

"One day our SQL Server came to a halt. I did everything: ran spyware software, deleted numerous .TMP files, ran Windows® update, etc. But nothing got the server to run. Then I installed and ran Diskeeper; I found that the hard drive was horribly fragmented. But after Diskeeper finished defragging the system, the server came up."

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AVATARS GET DO

Lots of corporations are dabbling in virtual worlds, but

VN TO BUSINESS

no one has found the killer app — yet. By Mary K. Pratt

CEO Aedhmar Hynes' avatar opens a companywide meeting for Text 100 Corp.

What do Xerox printers, Fenway Park, green creatures and an executive zipping around with a personal jetpack have in common? Are you stumped? You might not be if you had an avatar. For those who don't, here's the answer: Xerox Corp. workers, customers and analysts all came together for a meeting and product launch held simultaneously at Boston's legendary baseball park and at Xerox Inspiration Island in Second Life. Several virtual participants were, in fact, green, and Xerox Chief Technology Officer Sophie Vanderbroek made a spectacular crash-landing entrance via her virtual jetpack.

Jonas Karlsson, a researcher in the Xerox Innovation Group, says the virtual meeting provided an opportunity to showcase products as well as test the use of Second Life for a meeting. But Karlsson is being modest. In reality, the event has a larger meaning: It's helping to herald the next big thing in communications.

The real world and the virtual one — in which people represented as avatars can interact with others as well as virtual representations of real and imaginary objects — are beginning to blur in professional settings, as companies explore how virtual environments and technologies can bring value to their businesses.

Don't worry if you don't have an avatar yet. It's still early. But be warned: Many think it's just a matter of time before being "in-world" becomes as important for business as having a Web site and standard teleconferencing equipment is.

"Everybody's kind of all over the map of this, and for the most part, people have no clue what they're supposed to be doing. It's very much in the exploration phase," says Rob Enderle, principal analyst at San Jose-based Enderle Group. "But eventually someone will do it right — and we're still waiting for that someone who does it right — and then they'll all come flocking to it."

Businesses are already getting a sense of what the right approach might entail, mostly from entertainment companies, Enderle says. He points to The Walt Disney Co.'s virtual-world offerings, which include a fairy site and a *Pirates of the Caribbean* site, as ways to attract and retain customers.

"Those are ways to keep [kids] tied into the Disney experience so they'll consume goods and services," says Enderle. "They're one of the few companies that really thought through that, but even with them, I don't think we've hit the limit on really making use of the tools."

But, again, it's still early.

It was just two years ago that Second Life, the vir-

Continued on page 26

COMPUTERWORLD.COM

THE AVATAR EXPLAINS ALL

Watch Xerox CTO Sophie Vanderbroek's avatar explain her commitment to virtual worlds at **computerworld.com/more.**

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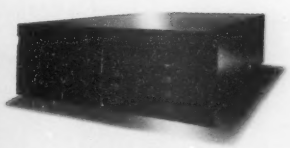
_INFRASTRUCTURE LOG

_DAY 68: Managing all our services is so complex. What assets didn't we identify? Are we monitoring everything? What's out there? We need more control to mitigate risk.

_Gil installed hundreds of security cameras to find and monitor everything. I never knew the broom closet was so interesting.

_DAY 70: I'm taking back control with IBM Service Management. IBM experts helped us reduce complexity and plan strategically for quality service delivery. IBM Tivoli gives us the visibility, control and automation we need to help ensure compliance and manage the risks to our services. And the advanced authentication and encryption on our new IBM POWER™ systems help make us more secure than ever.

_The cameras are gone. And the brooms have their privacy back.



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Continued from page 23

tual world created by Linden Research Inc. and the clear leader in this arena, starting making headlines, says Stephen Prentice, an analyst at Gartner Inc. And even though SL is the best known of the virtual worlds, it's not really that big. It claims about 12 million residents, but Prentice says that number refers to the 12 million people who have downloaded the free software. The actual number of users who have been in-world in the past 30 days is closer to 850,000.

That's not a huge target audience, yet some companies were still eager to jump into Second Life and other popular virtual worlds during the past two years, Prentice says.

"When it started to take off in 2006, we saw a lot of companies creating virtual headquarters," he says. Some of the big-name automakers, banks and hotels replicated themselves in virtual worlds and then waited to see who would show up, using their virtual operations as a way to market, advertise and maybe make money.

VIRTUAL VALUE

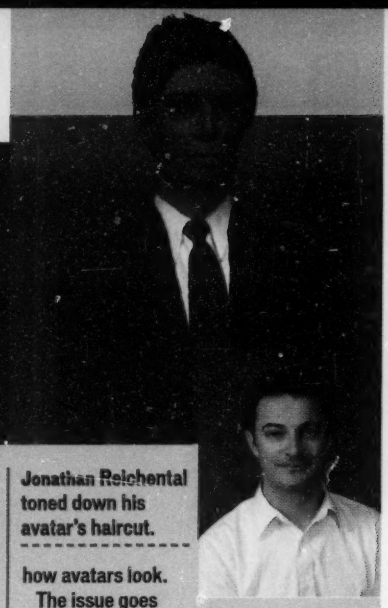
The car company Scion is a case in point. Scion has had a presence in the virtual world since April 2006 and is now established in four sites — Gaia, Second Life, There.com and Whyville — according to Adrian Si, interactive marketing manager at Scion, a division of Toyota Motor Corp. "It gives us great exposure," he says.

Not all companies are so upbeat. "What happened is they just didn't get people interested, so they've been going through a bit of a hiatus," Prentice says, noting that over the past year or so, a number of companies shut down their virtual operations or just let their in-world sites turn into ghost towns. But that's not as dire as it sounds. Prentice says it's less a permanent corporate pullout than a temporary pullback for assessments.

"They're refocusing on how to use the technology, possibly using one of the virtual worlds to work better internally," he explains. "So they're looking at using it for collaboration vs. e-commerce. They're setting up meeting rooms in private areas so they can control access. It's a little like teleconferencing."

Continued on page 28

AVATAR DRESS CODES AND OTHER NEW RULES



Jonathan Reichental toned down his avatar's haircut.

JONATHAN REICHENTAL wouldn't show up at his Tampa, Fla., office sporting a Mohawk, but he opted for the edgy haircut when he ventured into the virtual world.

"When I first had my avatar, I had a Mohawk, lots of muscles and was very tall – everything I'm not," he says.

But Reichental, director of IT innovation at PricewaterhouseCoopers, says others were distracted by his avatar's appearance, "so I bought a suit and shoes and got a haircut."

Now his avatar, while not a picture-perfect replica, looks more like him.

The virtual world allows endless options for how one can look, behave and interact with others. That's part of its charm, but not necessarily part of its business value. Companies that plan to move some activities into the virtual world need to consider standards for employee appearance and behavior.

So far, such standards are no more homogenous than the corporate cultures that spawned them.

Chris Badger, vice president of marketing at Forterra Systems Inc., which provides enterprise-level virtual-world technologies, says an avatar's appearance can closely mimic that of its real-life counterpart. But regardless of such capabilities, he says, companies and employees should be comfortable with how avatars look.

Jonas Karlsson's edgier look.

The issue goes beyond the merely cosmetic, he says. If your colleague's avatar is a fuzzy pink bunny, for example, how do you know it's your colleague you're talking with and not some fuzzy pink prankster?

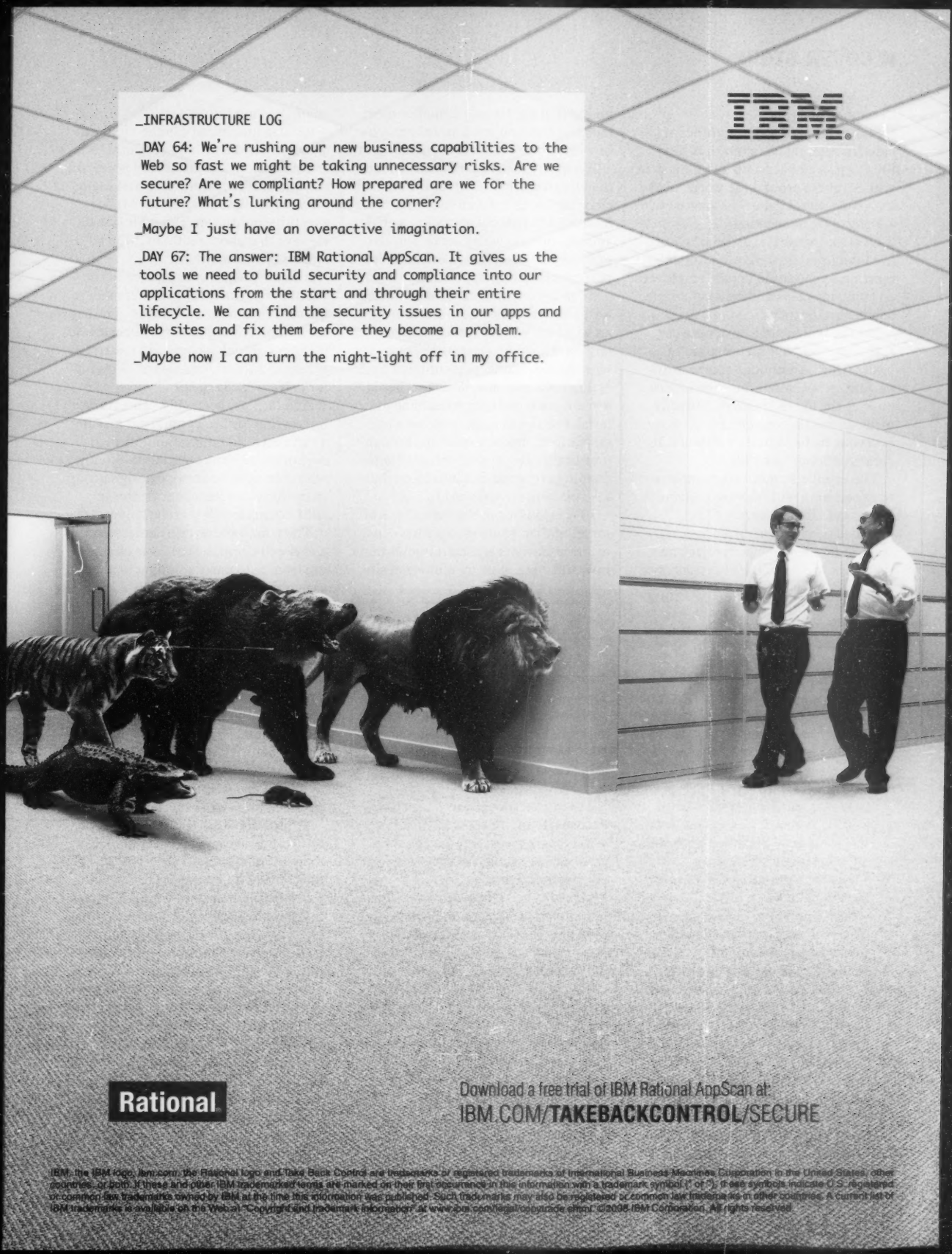
Badger says companies are learning to balance creativity with authentication. Some, for instance, allow employees to have creative avatars as long as their full names and titles are continually displayed along with them.

Some companies rely on their existing policies to govern in-world activities. "We haven't felt a need to have a specific policy on virtual worlds, because the policies are already there," says, Jonas Karlsson, a researcher at Xerox. His avatar has green skin and spiky hair, while that of CTO Sophie Vanderbroek bears a strong resemblance to her real-world self.

On the other hand, IBM developed a set specific virtual-world guidelines, including these: "Use your good judgment," "Protect your – and IBM's – good name," and "Make the right impression." The guidelines also state, "Your avatar's appearance should be reasonable and fitting for the activities in which you engage (especially if conducting IBM business)."

IBM also warns employees to protect intellectual property, reminding them that the public virtual worlds, such as Second Life, are open societies where proprietary information should not be discussed, even on private islands that offer – but can't necessarily guarantee – privacy.

– MARY K. PRATT


_INFRASTRUCTURE LOG
_DAY 64: We're rushing our new business capabilities to the Web so fast we might be taking unnecessary risks. Are we secure? Are we compliant? How prepared are we for the future? What's lurking around the corner?
_Maybe I just have an overactive imagination.
_DAY 67: The answer: IBM Rational AppScan. It gives us the tools we need to build security and compliance into our applications from the start and through their entire lifecycle. We can find the security issues in our apps and Web sites and fix them before they become a problem.
_Maybe now I can turn the night-light off in my office.
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Some companies find significant value in internal collaboration. Text 100 Corp., a global public relations firm with 31 offices around the world, made its virtual-world debut last August with a companywide meeting.

CEO Aedhmar Hynes, who is based in Manhattan, says she scheduled the meeting so she could update employees on company news and celebrate some business milestones.

But the real benefit wasn't the easy and cost-efficient dissemination of information — although that was important — but rather the camaraderie built by the event, she says. "It really made us feel like one company, because everyone had a shared experience. It created a bond," she says.

The event also motivated employees to experiment with ways to collaborate in Second Life, she says.

"Once people created avatars, they were more likely to get involved and do things in Second Life," Hynes says, noting that she has seen smaller meetings and training sessions take place in-world since that first event last year.

Hynes says she initially heard about the virtual world in 2005 and soon realized that it was a technology that could increase internal collaboration as well as collaboration with clients. She also saw the virtual environment as an important marketing opportunity.

Erica Driver, an analyst at Forrester Research Inc., says there are several areas where virtual-world technologies will be critical for companies. One is viewing, analyzing, presenting or interacting with complex data. Another is learning new skills or rehearsing material. (You can't stage a fire on a real oil platform, but you can run through it virtually, she says.) A third is transforming presentations into tours that take place in virtual worlds.

IBM is looking at the virtual world for all of that. Its employees have had meetings, events and training sessions in-world, both at its own internal site and in Second Life.

It's also looking to use the medium to sell its products and services to other companies. "It's just a very powerful way of meeting, interacting and doing work with other people," says IBM executive consultant Doug McDavid. He says that about 6,000 to 7,000 IBM employees have avatars.

An early meeting took place in the fall of 2006, when IBM workers met in the auditorium on a private island that the company purchased in Second Life. (Owners of such islands can restrict access to authorized avatars, allowing for private exchanges.)

And late last year, IBM ran a training session for project managers using a virtual world built behind its own corporate firewall, says Susan Stucky, who manages the service design group in the Services Research Center at IBM's Almaden Research Center.

The training exercise centered on a fictional company that was changing from auto parts shipping to auto assembly. In this exercise, IBM had to adjust an existing contract with the company to meet its evolving needs.

In two eight-hour sessions, about a dozen project managers located in different offices went in-world to work as a team to renegotiate IBM's contract with the company. Using avatars, the project managers had to designate responsibilities, make proposals and pitches, and interact with the company's CEO and CIO — everything that would happen in a real-life situation.

Stucky says IBM didn't do a formal return-on-investment study but still found that holding the exercise in a virtual world offered important benefits. For example, she says, it clearly saved the company money. It was cheaper to build a virtual auto-assembly shop for training than to replicate one in real life. And there were no airline tickets, hotel bills or meal tabs for out-of-town attendees; everyone participated from their home offices.

In addition, Stucky says some research has found that people are more willing to take risks as avatars than they are as real-life individuals, which could make virtual training more effective than its real-life counterpart. The role of IT on this emerging new frontier is far from clear.

IT'S ROLE

THE IT DEPARTMENT'S role vis-à-vis its company's virtual-world activities will vary based on what the business wants to accomplish. If executives want a presence in an existing virtual world for marketing reasons, IT's role might be limited. But if they want a virtual world built behind the corporate firewall for meetings, IT will have a whole different set of responsibilities.

Here are some issues that you may have to address:

■ Access. Some IT departments have blocked access to virtual-world sites, so they will have to open ports if they want to encourage workers to experiment.

■ Public or private? Companies that want to try this technology for internal uses might decide it's better to build a platform that's behind the corporate firewall, while others might decide there's a business value in creating a presence in one or more public sites.

■ Hardware requirements. Some virtual-world sites have robust hardware requirements, and many companies' desktops and laptops lack the horsepower required to support them.

■ Security risks. IT needs to determine whether – and, if so, what – additional technologies need to be deployed to mitigate the risks associated with opening ports to the virtual world.

■ User education. Conversations in Second Life and other public virtual worlds aren't necessarily private, so users should be warned about disclosing proprietary information.

■ Build or buy? If the decision is to buy, IT has to consider how to evaluate a provider; if it's to build, IT has to determine which skills and equipment are needed.

■ Updates. Some virtual-world sites need to be updated every week or even every few days. That means IT will be very busy handling those updates, or it will need to allow tech-savvy users to handle them on their own.

– MARY K. PRATT

SOURCES: DAVE KAMALSKY, PROGRAM MANAGER/SOFTWARE ARCHITECT FOR VIRTUAL WORLDS RESEARCH AT IBM; JONATHAN REICHENTAL, DIRECTOR OF IT INNOVATION AT PRICEWATERHOUSECOOPERS; ROB ENDERLE, PRINCIPAL ANALYST AT ENDERLE GROUP

When Text 100's Hynes jumped into Second Life, she didn't consult her IT staff. And when Hynes decided to establish a richer presence for her agency in Second Life, she opted to outsource the work, hiring The Electric Sheep Co. in New York.

Aaron Uhrmacher, Text 100's global peer media consultant, says agency executives did seek input from the IT department before outsourcing the work but found that the group didn't have the skills necessary to build an in-world presence. "It was like the early days when you had to build a Web site, [and] you had to hire someone with HTML skills," Uhrmacher says.

So where does that leave IT?

Although the virtual world and its expected future evolution into the 3-D Internet are clearly emerging technologies, analysts, business executives and industry leaders say the push to explore their use in business often comes not from the IT department but rather from others, such as marketing or human resources.

But IT can't afford to take a back seat. Tech professionals need to offer their own ideas, insights and services as their business colleagues seek information.

"Right now, the critical questions are being asked, and people will expect IT to have a baseline of knowledge, so somebody in IT [had] better be studying this," says Enderle. "Because if IT is not participating in these decisions or IT is participating badly, it reflects on the IT organization and the company."

Jonathan Reichental, director of IT innovation at PricewaterhouseCoopers, says IT professionals must first understand that realizing the business potential of virtual worlds involves much more than creating avatars.

They need to look at virtual worlds as they look at any other technology and understand how they can improve business functions and processes, how they can help the company reach its internal and external goals, and how they can be implemented to do all that, Reichental says.

Even when companies opt to outsource the work, IT has to be prepared to evaluate providers and manage the relationship. For instance, IT support manager Brad Bartman says his department made sure Text 100's work with Second Life was secure and that it didn't cause any problems with the agency's infrastructure. IT also worked on various projects in support of the initiative.

The main message for IT: Get involved and see where all this leads.

Even champions of virtual worlds don't see them as a replacement for the real thing. There are times when face-to-face interactions are the only way to go. And, yes, there are times when a simple telephone call or e-mail exchange will suffice. But there's a growing list of advantages to working in-world, too.

"Will it replace real life? No, it will not. Will it replace e-mail? Probably not," Stucky says. "But for those already in the virtual world, it's an authentic experience. It will just be a while before we get to that point for everybody." ■

Pratt *is a* Computerworld *contributing writer in Waltham, Mass. Contact her at marykpratt@verizon.net.*

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■ BOOK EXCERPT

Adrenaline Junkies And Template Zombies

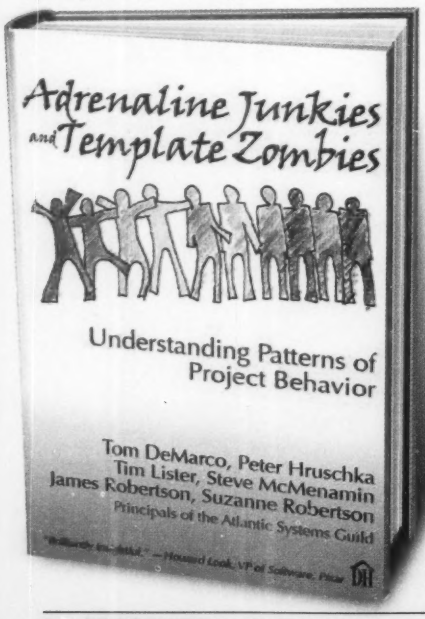
A new book looks at the effects of projects' hidden rules.

Many a corporate culture rewards behaviors that are counterproductive, but unless you hold those cultures up to the light of day, it's nearly impossible to change them. The authors of Adrenaline Junkies and Template Zombies: Understanding Patterns of Project Behavior *have seen a lot of wrongheaded cultures. Here, they examine a few.*

WHAT IS CORPORATE CULTURE?

Consider the assertion that the performance of your organization stands on four pillars: proficiency, velocity, agility and corporate culture. Proficiency is your ability to do the right thing and do it right. Velocity is your ability to do it quickly. Agility is your ability to turn on a dime when circumstances change. And corporate culture is the connective tissue that holds everything together.

All of these are important, but the great body of management literature, standards and training materials is focused only on the first. (We include in this critique most of our own books.) All the process brouhaha, the quality movement, initiatives for Six Sigma and CMM/CMMI-level improvement are about proficiency. The other three pillars are treated anecdotally if at all. So a great tome about proficiency might end with the observation, "All the stuff I've been writing about has to be done quickly, of course, and you may need to switch gears along the way. Oh, and by the way, if your corporate culture won't allow change, you're screwed."


Adrenaline Junkies and Template Zombies
Understanding Patterns of Project Behavior
Tom DeMarco, Peter Hruschka
Tim Lister, Steve McMenamin
James Robertson, Suzanne Robertson
Principals of the Atlantic Systems Guild

Particularly when failure looms, people are quick to blame

■ It's sometimes easier to identify the patterns of behavior that the rules cause, and then go back later to ascertain the underlying rules.

corporate culture: "The organization just couldn't adapt; it was cultural."

So corporate culture is important. But what exactly is it? You know it when you see it, of course, but could you define it? It clearly has something to do with the larger subject of *culture*, a word you can look up. *Culture* is usually defined as "the rituals and ceremonies that define a people," or — we love this one from The New Oxford American Dictionary —"The arts and other manifestations of human intellectual achievement regarded collectively."

Clearly, this is not at all what we're talking about under the heading of corporate culture. We offer the following definition, which makes the subject a bit more tractable and even holds out the possibility of introducing change:

Corporate culture is the set of unwritten rules that are uniformly understood and implicitly obeyed by all members of the organization.

Let's take an example: Your organization may have an unwritten rule that you as manager may petition for a bit more time to deliver a product, but you may do this only once. Going back to the well a second time makes you a wuss. When this rule applies, the culture forces you to withhold the information that a project is in trouble, a clearly unfortunate situation.

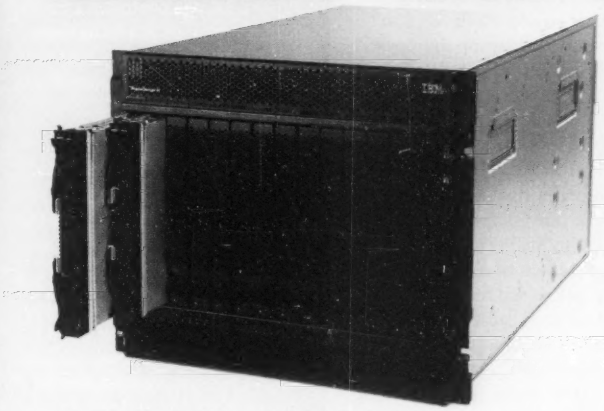
As a first step, it's sometimes easier to identify the patterns of behavior that the rules cause, and then go back later to ascertain the underlying rules. So, for example, do any of these patterns seem familiar?

- **Adrenaline Junkies:** Organizations where running around with your pants on fire is the only safe way to behave.
- **True Believers:** Organizations where a guru sect has dictated One Way and Only One Way to get project work done.
- **Endless Huddle:** Organizations in which the right of infinite appeal stops all work dead.
- **Dead Fish:** Organizations where a project is headed for disaster and everyone knows it (but people keep their heads down and work as if everything is normal).
- **Happy Clappy Meetings:** Organizations where your opinion seems to be encouraged, but it's really only your approval that is necessary.

A corporate culture brainstorm is an effort to identify and name patterns of behavior and then tease out the underlying unwritten rules. When these rules are stated clearly, it may be possible to alter or repeal them. Leaving them unnamed, on the other hand, assures they will haunt you forever. ■

Adapted from **Adrenaline Junkies and Template Zombies: Understanding Patterns of Project Behavior** *(Dorset House, 2008), by Tom DeMarco, Peter Hruschka, Tim Lister, Steve McMenamin, James Robertson and Suzanne Robertson.*

Blade Servers



This IBM BladeCenter H enclosure holds 14 server blades.

BY RUSSELL KAY

BLADE SERVERS were invented to enable today's small, powerful computers to fit more efficiently into standard server racks, whose large physical size was determined back when electronics required vacuum tubes. Server racks are 19 in. wide and are designed to hold components that measure a multiple of 1.75 in. high (a measurement referred to as U). The standard rack is 42U high, so 42 1U-high servers can fit into a rack.

But a 1U server takes up very little of the horizontal space in the server rack. To use that space more efficiently, individual blade servers are mounted vertically in a 6U- or 7U-high blade enclosure, plugging into a backplane that can hold up to 16 servers rather than the six or seven that would fit horizontally.

Technically, blade servers harken back to 1981's VME-bus architecture, which allowed a single-board computer to be plugged into a chassis backplane with multiple slots. In 2001, the PCI Industrial Computer Manufacturers Group adopted a backplane/blade structure in which a single enclosure could include multiple computers with one master board coordinating the entire system.

When a single board included the CPU, memory, I/O and nonvolatile program storage — in other words, a complete server, with operating system and applications — it came to be called a blade server. RLX Technologies, a Houston firm made up mostly of ex-Compaq employees, shipped the first blade server in May 2001. RLX was acquired by Hewlett-Packard Co. in 2005.

Blade servers . . .

Save space, power and administrative time.

Conserve data center floor space.

Can share vital resources because they plug into a backplane.

Simplify and reduce cabling.

Reduce costs by as much as 25% compared with traditional servers.

Blade servers . . .

Are costly, at nearly $2,000 per unit, making changeovers capital-intensive.

Require data centers designed with sufficient cooling and weight-bearing capacity to accommodate high-density hardware.

Are often proprietary, locking users into a single vendor.

TECHNICAL CONSIDERATIONS

Blade servers plug into a chassis backplane in an enclosure that can hold six to 16 blades. The enclosure balances electrical power according to the various component blades' demands. A fully loaded blade server system can generate considerable heat, so enclosures monitor it and may shut down the entire system if the temperature rises too much.

Hot swapping — the ability to add, remove and replace server blades without powering off the system — is an important capability. A problem blade can be removed and repaired or replaced without disrupting others in the same enclosure.

Blade servers generally connect to the enclosure via Ethernet. Each enclosure has Ethernet and/or Fibre Channel switches connecting each blade server to the LAN. The enclosure also includes USB and VGA ports for monitor, mouse and keyboard I/O connections, and it may contain a CD or DVD drive. Blade servers simplify cabling; as many as 200 cables coming out of a "normal" rack can sometimes be replaced with just three to six cables.

Each blade server may have local disk storage, but using a storage-area network keeps both enclosure and blades completely free of storage systems' inherent heat, noise and reliability problems. Open blade architectures exist, but, in practice, blade servers most often use proprietary connections.

THE MARKET

IDC identifies HP, IBM, Sun Microsystems Inc. and Egenera Inc. as the major players in the blade market. The research firm says that server blades were the fastest-growing server segment in the third quarter of 2007, accounting for more than 10% of all servers shipped. HP led the blade market in that quarter with 42.1% market share and factory revenues that were up 79.6% from the same period a year earlier. IBM held the No. 2 spot with 32.9% market share. ■

Kay *is a* Computerworld *contributing writer in Worcester, Mass. Contact him at russkay@charter.net.*

Definition

BLADE SERVERS are modular, single-board computers, typically about 7 in. high, 2 in. wide and 19 in. deep. Each blade contains processors, memory, network controllers and other I/O ports; it plugs into an enclosure that holds multiple blades and provides power, cooling, networking, specialized interconnects and management.

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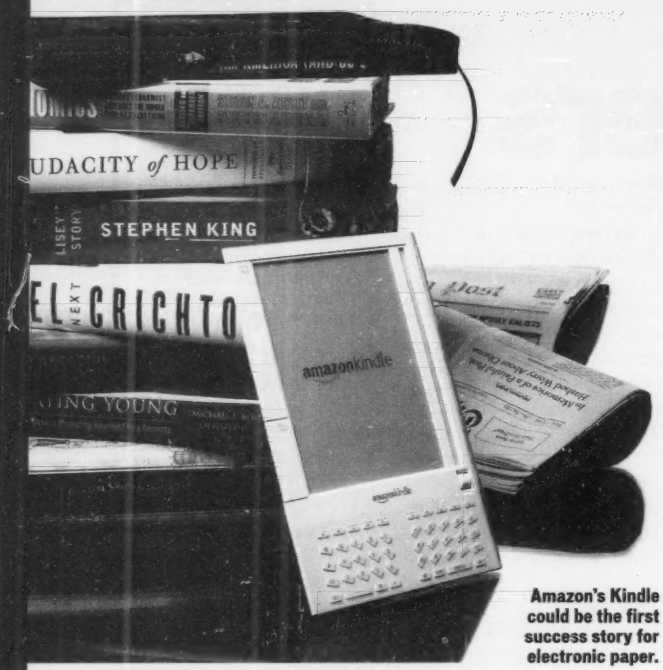

Amazon's Kindle could be the first success story for electronic paper.

The Future Of E-paper

The Kindle is only the beginning. By David DeJean

AMAZON.COM Inc.'s Kindle has turned a long underperforming category of tech gadget — e-book readers — into an overnight hit and in the process has boosted interest in electronic-paper display (EPD) technology. Both the Kindle and its rival, the Sony Reader 505, display images of pages that look uncannily like printed pages and consume next to no power.

"E-book readers have gotten the world excited about e-paper," says Barry Young, an analyst at market research firm DisplaySearch. But a few key characteristics are still around the corner.

Current EPD displays are based on electronic "ink" that E Ink Corp. has been developing since 1997. E Ink's electrophoretic technology puts oppositely charged black and white pigments into tiny "microcapsules" filled with a transparent fluid. The capsules are fixed to a substrate and sandwiched between electrodes, and when current is applied, one pigment is drawn to the positive electrode, the other to the negative.

The ink is bi-stable — that is, it requires electrical power only to change its state, making it very energy efficient. The reflective surface of the displays makes them readable in daylight that would wash out conventional laptop displays. Most important, EPDs use only a fraction of the power that conventional LCD displays require.

Another advantage is that e-paper displays can now take any shape, according to Sri Peruvemba, vice president of marketing at E Ink. Until recently, they had been built only on glass — particularly the active-matrix displays used by today's e-book readers — but the technology is moving to plastic substrates that will make e-paper almost as flexible as the real thing.

The resolution of EPD screens is improving rapidly. Active-matrix displays like those used on the current generation of e-book readers can offer relatively high resolutions (the Kindle screen displays 167 pixels per inch, or ppi), and Seiko Epson Corp. recently showed off a 13.4-in. display prototype with 3104 x 4128 resolution, about 385 ppi, that uses E Ink's electrophoretic ink on a silicon thin-film transistor glass substrate.

EPDs are already showing up in other consumer products, including watch dials, cell phones, credit cards and security cards. They're also found in instrumentation applications, like the capacity meter on Lexar JumpDrive USB drives, and in signage, says Jennifer Colegrove, an analyst at market researcher iSuppli Corp.

But there are disadvantages. Redrawing an image on an EDP takes longer than it does on an LCD screen, which makes the technology unusable for animation. Because EPDs are reflective, signage needs to be illuminated in dark areas. And screen contrast is much lower than it is with backlit LCD screens.

Moreover, e-paper displays currently are limited to black and white and a range of gray tones. (The Kindle display renders four levels of gray; iRex Technologies BV's iLiad reader, 16.)

These constraints may delay acceptance of the medium. "E-paper is still five years from being a mainstream technology," says Len Kawell, a distinguished engineer at Microsoft Corp.

Still, overall, there is a feeling of potential about e-paper that's fueled largely by the size of the current market for publishing on real paper. If e-paper grows from its current 0.1% of that market to even 3% or 4%, says E Ink's Peruvemba, "you'll be looking at a $9 billion to $12 billion market." ■

DeJean *is a freelance writer who began writing about computers after Cobol but before C++.*

The Final Pieces

Several pieces of the e-paper puzzle are still needed for the medium to move into the mainstream. Here are the big ones:

Color. E Ink demonstrated a color-display prototype at a trade show in May, and the company indicates that color will be widely available in two to three years.

Flexibility. Kindle's screen has so far been limited to glass, but others are using more-flexible materials, such as thin-film transistor technology, which can create a foldable screen.

Cost. E-book readers are expensive. (The Kindle sells for $359.) But costs will come down, particularly as screens are incorporated into small consumer devices such as USB drives.

– DAVID DeJEAN

Seeking Dollars For Scholars

A **doctorate in information security** is enticing. But **how to pay for one?**

I HAVE ALWAYS wanted to get an advanced degree in information security. The difficulties are time and money: I can make the time only if I stop making money.

I believe strongly in the merits of self-improvement, including professional training. I have been fortunate, working for the state, in being able to avail myself of opportunities for technical training such as Cisco certifications. But the state doesn't pay for course credits, so I decided to do a little research.

The Web site of (ISC)², the organization that awards the CISSP, has a resource guide that lists universities and colleges offering infosec programs at all levels of study, as well as training affiliates and a schedule of security conferences, trade shows and events.

OK, the programs I wanted were at my fingertips, but how was I going to pay for any of them?

That's when I discovered that the federal government will pay for advanced infosec education if you're willing to work for the government afterward. You have to commit to a year of service for every year of schooling the government pays for. That sounded intriguing.

The Information Assurance Scholarship Program is sponsored by the Department of Defense and managed by the National Security Agency. Schools that meet certain requirements can apply for grants to fund students' educations.

But there are requirements for the students as well, all laid out in detail in a document available online. This statement looked enticing: "If all conditions are met, Information Assurance Scholars will receive full-time conditional/permanent positions in agencies and components of the DOD upon program completion."

The scholarship provides for tuition, books, fees, supplies, lab expenses and equipment, plus a small stipend ($10,000 for undergraduate studies and $15,000 for graduate work).

■ It's sobering to think of being subjected to the thorough examination of a security clearance.

There is no support for dependents, and one must be a full-time student. Those with disabilities may receive more in allowances.

The good news is that a student can apply for the scholarship for each year of study as long as academic and internship performance requirements are met — contingent upon the availability of funding, of course.

SECURITY RISK?

Besides being accepted by the school of your choice, you must obtain a security clearance. That's something I've never had to do, but I did find a Web site that's helpful in understanding the process from a layman's perspective.

An adjudicator decides your fate, weighing factors such as a history of financial problems (failure to meet financial obligations or an inability or unwillingness to satisfy debts, for example); emotional, mental or personality disorders; signs of foreign sympathies, such as possession of a valid foreign passport; criminal conduct; and a drug record.

There are also "Adjudicative Guidelines," which can be found on the U.S. State Department Web site. A "whole person" evaluation is used to find out every single thing about you: personal conduct, sexual behavior, financial dealings, alcohol consumption, nonwork activities and misuse of IT systems, among other traits.

It's sobering to think about being examined so thoroughly, but I have to hope that allowances are made for those of us who didn't fully achieve maturity at the age of majority. Will I be sent packing because I once bounced a check by accidentally using an old checkbook, because I got wild on my 30th birthday, because I tried pot once or because I spent a year drinking too much until I realized what I was doing?

It's also ironic. I mean, security is my business. Why should I be worried about getting a security clearance?

I would love to hear from any of you who have availed yourself of a federal infosec scholarship or who have successfully obtained a security clearance. I'm eager to move ahead, but it sounds like I have my work cut out for me. ■

This week's journal is written by a real security manager, ***"C.J. Kelly,"*** *whose name and employer have been disguised for obvious reasons. Contact her at mscjkelly@yahoo.com.*

Trouble Ticket

AT ISSUE: Our manager wants an advanced degree but can't afford it.

ACTION PLAN: Find out about a federal program that trades years of service for years of funding.

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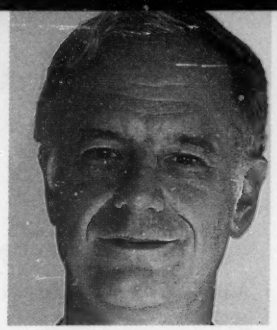
■ OPINION

Bart Perkins

Chargeback With Less Drama



CHARGEBACK is a highly emotional topic for business units and IT organizations. Chargeback systems attempt to allocate IT costs to the business units that actually use IT's services. Many business units believe that IT services are overpriced. But even reasonable customers want to know how much those services cost, in terms they can understand. They also want to know that they are not subsidizing another business unit's costs.

Poorly implemented chargeback systems cause IT extra work (and headaches) by forcing IT to repeatedly answer questions and justify charges. These exchanges often cause business units to become irritable and resist the charges, requiring more answers and justifications.

To minimize frustration on both sides, make sure your chargeback system is designed to do the following:

■ **Avoid providing free services.** Charging for some services while labeling other services "free" causes problems because business units will want more for free. One IT organization didn't charge for a financial query tool. A business unit used this tool and Excel to create a subsystem, then demanded that IT support the subsystem for free as well.

■ **Operate at an appropriate level of detail.** Some chargeback systems are based on highly detailed metrics that are difficult to understand. Others bundle costs into a few "simple" charges that are too generalized to check for accuracy. One company bundled multiple PC services into a single desktop charge. The marketing unit protested that it was being overcharged, since it used specialized PCs with custom applications and never accessed the office suite, e-mail or desk-side support.

■ **Frustrate sneaky workarounds.** People are creative in exploiting chargeback weaknesses. One system charged for individual office tools and adjusted monthly charges based on the number of PCs using each tool. When a business unit discovered that it was not going to meet its profit goal, it reduced IT charges by disabling PowerPoint and Excel for three months for all but a few people. Meanwhile, IT continued to incur Microsoft charges for the disabled software. The business unit achieved its profit targets, but Infrastructure came in over budget.

■ People are incredibly creative in exploiting chargeback systems' weaknesses.

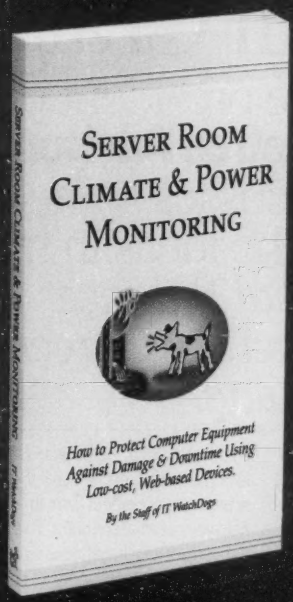
■ **Support the service catalog.** With ITIL Version 3 becoming more widely accepted, many companies are implementing service catalogs to standardize IT services and costs. This extremely effective approach to chargeback standardizes definitions, provides consistent charges and streamlines the associated processes.

■ **Base charges on accurate data.** Estimates inevitably lead to conflict. One company initially failed to enforce time-reporting requirements, and halfway through the year, IT realized that some development staffers had not reported their hours for several months. When IT was forced to retroactively estimate the time each staff member had spent on each project, several business units complained bitterly that they had been charged for more hours of support than they had actually received.

■ **Charge for services, not technology.** Systems that charge for specific hardware devices constrain IT's ability to manage infrastructure efficiently. One company's approach made server virtualization almost impossible. The individual business units purchased servers, then transferred the hardware to Infrastructure. The business units were charged a monthly "operation" fee. But when Infrastructure planned to virtualize servers, the business units protested, "But that's my server!"

A well-designed chargeback system provides fair and consistent charges, streamlines financial processes and enables business units to analyze and potentially reduce their IT costs. Create a chargeback system that is well defined and easily understood. It will help you recover IT costs and promote corporate efficiency. ■

Bart Perkins *is managing partner at Louisville, Ky.-based Leverage Partners Inc., which helps organizations invest well in IT. Contact him at BartPerkins@LeveragePartners.com.*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Career Watch

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Career Nurturing At Xerox

Career development is anything but haphazard at Xerox Information Management (XIM).

When Pat Brewer joined the team last July as its HR director, CIO John McDermott asked her to develop a global framework for career development. The idea was to create a blueprint for determining the steps that XIM should be taking to develop and nurture the career paths of its 800 IT professionals worldwide.

To that end, Xerox developed a Web-based software tool called Global Talent Builder. With the software, which Xerox will begin using this year, IT workers and their supervisors will be able to assess their skill levels and growth potential as well as their competency gaps, says Mark Laffin, a performance and productivity manager at XIM.

Once IT workers have completed their self-assessments, the software helps them choose activities that will address their competency gaps and provides instructions on how to go about doing so, says Laffin.

Working with a third-party vendor, XIM has also created a methodology for assessing IT professionals' potential. The assessment can lead to strategies like giving people "stretch assignments." For example, a U.S.-based worker could be assigned to an international project or to a special project in addition to his usual role.

XIM plans to have its 500 U.S.-based IT workers fill out self-assessment and career development plans during the second half of this year. The effort will go international beginning in 2009, says Brewer.

– THOMAS HOFFMAN

XIM's Pat Brewer

PAGE COMPILED BY JAMIE ECKLE.

■ Q&A

Randall Craig

LAURA ARSIE PHOTOGRAPHY

The president of **Pinetree Advisors** discusses some of the ideas in his book *Personal Balance Sheet: A Practical Career Planning Guide.*

Why do people have to make a special effort to plan their careers? What's wrong with just doing your job well? You spend more time at work than doing anything else in life, so doesn't it make sense to spend just a bit of time planning your career? For example, how should you decide if a particular promotion, contract or project is best for you? How do you know when to leave your job and find another? And with such limited time, how do you know where – and how much – to invest in your professional development? The answers are the province of career planning. Yes, to do well, you need to do your job well today, but achieving your longer-term goals requires some longer-term thinking.

You note that much of what passes as networking is worthless. How can people extract real value from the exercise? Many people believe that networking is about showing up at an event, making small talk and exchanging business cards. The more Web-minded might add having lots of "friends" on Facebook or LinkedIn. While these types of activities are important, they are not networking. Networking is all about broadening your contact base and then deepening your relationships. Networks – and relationships – are like bank accounts: Without making a deposit, you can't expect to make a withdrawal. Said another way: Unless you help others get what they want, you can't expect them to help you get what you want. This concept of "give to get" is central to the process of networking.

If we're all working hard on our careers, plus doing our jobs well, is there time for anything else? I sure hope so! To succeed in our careers means not only doing well in our jobs, but making sure that our jobs support the lifestyle that we desire. Unfortunately, when people complain about balance, often the problem isn't too much work, but too little life. Solving this problem can be as simple as scheduling nonwork activities or as complex as seeking flexible work arrangements. But what "life" activities should be scheduled? Two clear facts: No one but you knows what your perfect balance should be, and no one but you can know which activities hold interest.

A useful model is the Personal Balance Sheet, which defines "balance" along the dimensions of community, family, intellectual, physical, spiritual, financial and career. The basic idea is that by choosing activities within each of these dimensions – or not – you are effectively setting your perfect balance. And if you're clever about it, some of your nonwork activities will pay off on the job as well.

– JAMIE ECKLE

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Ref # NET-802
Masters of Science or equivalent in Telecommunications or Sciences required with zero yrs of experience. Will implement knowledge gained from prior research or coursework in Citrix Servers, Print Servers, Data Communication, Telecom System Analysis, SQL and VPN to be able to analyze, design, develop, test, administer, customize and implement entry level IT related systems.

Management Analyst:
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Technical Writer:
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TRUE TALES OF IT LIFE AS TOLD TO SHARKY

Efficiency

This network admin is under the gun to solve two problems, reports a pilot fish nearby. Disk space is in short supply, and netadmin suspects it's because a group of more than a dozen employees is storing dirty pictures and videos. HR wants netadmin to document and delete each of the problem files – but that could easily take days, and HR wants it done *now*! Can I just get rid of them without documenting them? netadmin asks? That would be OK, says HR manager. Netadmin picks up the phone. "Hey Fred," he mutters, "this is Barney. I can't talk long, and I'm not gonna send this in an e-mail, but we just got some visitors from corporate here, and if you and your buddies have anything stored on the servers you wouldn't want your mother to see, you better delete them now." Pause. "No, I'm not saying over the phone that someone is going to be fired, but if I were you, I'd get rid of anything that is not G-rated *now*!" Says fish, "We doubled our server space in less than 15 minutes."

Unclear on the Concept – of Porn

It's the late 1990s, and this insurance company puts in a T1 line to give all users access to the Internet – along with a content-filtering firewall. "We were tasked with reviewing the logs to ensure that employees weren't viewing inappropriate sites, with violations to be reported directly to the CEO," says a pilot fish there. "We noticed that one user was viewing an inordinate number of porn sites. We tracked down the offending individual and asked why he was viewing porn at work. The answer we got back was, 'Since I review surgical malpractice cases involving breast augmentation, I need to reference what an unadulterated set of breasts looks like.' We reported this back to the CEO – and he agreed."

1 + 1 = Done

There's an e-mail virus outbreak, and IT director tells pilot fish to upgrade the antivirus software at once. But the installation's last step is to reboot the server – which the IT director won't allow until after-hours, leaving the network unprotected. Then fish gets an idea. "I unplugged the e-mail server from the domain and sat down at my desk," he says. "A few minutes later, the director came storming into the office, complaining that he couldn't access his e-mail. I told him that only a reboot could fix the system, but he had instructed me to wait until after-hours to do so. He blew up at me and yelled, 'Don't do as I said, do as I say!' I plugged the server back into the domain and rebooted it, completing my antivirus project and fixing his mail issue at the same time."

■ *Sharky wants mail too. So send me your true tale of IT life at sharky@computerworld.com. You'll snag a snazzy Shark shirt if I use it.*

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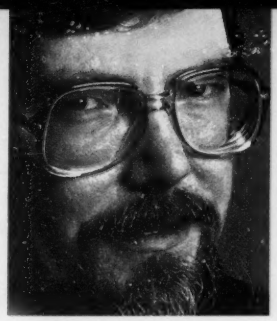
■ FRANKLY SPEAKING

Frank Hayes

Attack Vector



IF YOU'RE an IT security pro, you already know what this column is about. If you're not, you should download Verizon's "2008 Data Breach Investigations Report" right now from *http://securityblog.verizonbusiness.com/2008/06/10/2008-data-breach-investigations-report*. There's lots of horrifying data in there, but this is the one that shook me: Almost half of data thefts now come by way of our business partners.

That's right: Increasingly, attackers aren't trying to get through our security perimeters. Instead, they get inside the systems of suppliers, customers and contractors we trust, and from there, we're sitting ducks.

In 2003, only 8% of the attacks Verizon documented came that way. In 2007, 44% did.

And that percentage is likely to continue to rise.

Understand that this study from Verizon's security services group is based on metrics from more than 500 cases the company was hired to investigate. That's the study's strength and its weakness. It's naturally skewed to cover incidents that were worth calling in a security outfit about.

Then again, those are the ones that keep us up at night.

As you'd expect, the first few pages are a thinly veiled soft sell for Verizon's security services. Don't give up; the numbers start on page 8.

Some of what Verizon itemizes is common sense. But some of it demolishes our expectations. It turns out that only 18% of these attacks were launched by insiders (so much for the old "80% of security breaches come from the inside" myth). In 78% of the cases, fully patched systems wouldn't have stopped the breaches. And 55% of the attacks required no great technical chops — just script-kiddie capability.

And despite all the investments we've made in security monitoring,

■ Attackers get inside the systems of suppliers, customers and contractors we trust, and from there, we're sitting ducks.

70% of the breaches were discovered only after outsiders tracked the source of identity theft and other problems back to people like us.

What does the report recommend? Put simply: Monitor your systems, review the logs, and put processes in place to deal swiftly with security problems when they're reported.

There's more to it than that, of course. Read the report. Don't just hand it off to your security people. If you're a CIO or an IT manager or a sysadmin, you need to know what it says.

Then you need to change the way you think about security. Especially as it relates to partners.

That 44%-and-growing number is the one that should scare you. These are organizations we have to trust enough to let them connect to our systems. But we can't choose them; business users and executives do that. We don't run their systems. We may not be able to vet their security or force them to improve it.

We have to set up their connections fast, frequently on short notice and always according to what the business guys want, not what security demands. We have to let them inside our perimeter — but we can't secure *their* perimeters.

And the bad guys have figured out that every partner is now a potential attack vector.

What does Verizon recommend? Implement basic partner-facing security measures. Tighten up every aspect of your connections with partners, from provisioning to permissions. That's all good, practical advice.

But first you'll have to accept a new reality: Business partners aren't just an extension of your business. They're a potential threat — and your worst enemies know it.

Then get ready to explain to your CEO why you want to treat every partner like your worst enemy. ■

Frank Hayes *is* Computerworld's *senior news columnist. Contact him at frank_hayes@computerworld.com.*

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Best Practices
IN INFRASTRUCTURE MANAGEMENT
AWARDS PROGRAM

Congratulations Award Recipients!

Information Management World proudly announced the results of the "Best Practices in Infrastructure Management" Awards Program. This program honors IT users "Best Practice" case studies selected from a field of qualified finalists.

Honoree Awards Recipients in each of the following categories were recognized at Infrastructure Management World in Washington, DC, on June 18th:

Data Center Management, IT Operations & Business Continuity

Munder Capital Management, Birmingham, Michigan
Sprint Nextel, Overland Park, Kansas

Finalists:
- City of Lynnwood, Lynnwood, Washington
- Infosys Technologies Limited, Bangalore, Karnataka
- Roswell Park Cancer Institute, Buffalo, New York

Security, Compliance and Risk Management

Pilz, Corby, United Kingdom

Finalists:
- Ohio Dominican University, Columbus, Ohio
- ReDE Inc. for the Department of Energy, Oak Ridge, Tennessee
- Six Flags Inc., New York, New York
- Yuma County, AZ, Yuma, Arizona

Servers and Virtualization

Fannie Mae, Washington, DC

Finalists:
- Franklin & Marshall College, Lancaster, Pennsylvania
- Huntsville Hospital, Huntsville, Alabama
- Los Angeles Valley College, Van Nuys, California
- Nationwide Insurance, Dublin, Ohio

Storage and ILM

University of Wisconsin Center for Health Systems Research and Analysis (CHSRA), Madison, Wisconsin

Finalists:
- DigitalGlobe, Longmont, Colorado
- FreeDrive, San Diego, California
- Safeguard Properties, LLC, Brooklyn Heights, Ohio
- Stanford University, Stanford, California

Thank you to our "Best Practices in Infrastructure Management" Judges for IMW 2008:

- Johanna Ambrosio, *Computerworld*
- Scott Dennull, CareSource Management Group
- Bob Gill, Managing Director
- Drew Hiltz, Natixis Capital Markets, Inc.
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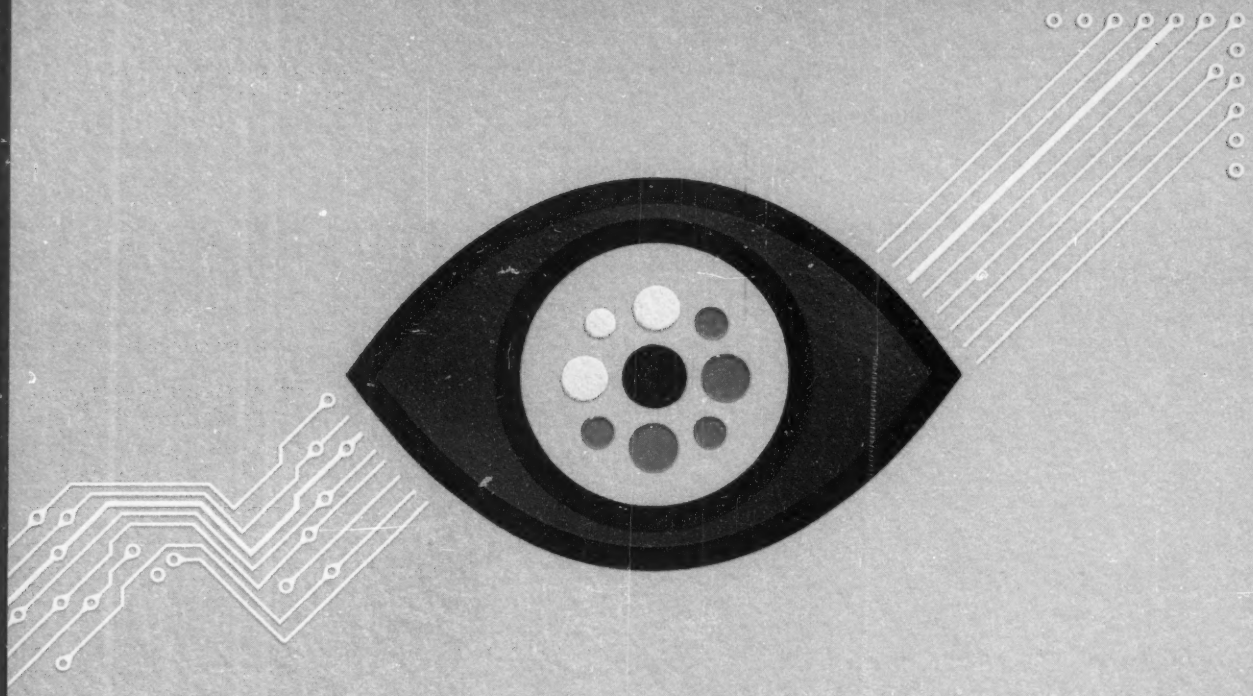

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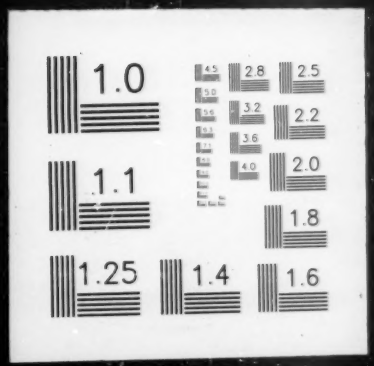
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